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ADDRESS OF PRESIDENT

MEADE CLYNE, M. D.
Tucson, Ariz.

(Delivered at the annual banquet of the Arizona State Medical Association and Ladies' Auxiliary, at the Forty-third Annual Session of the Association, held at Prescott, Arizona, June 7, 8 and 9, 1934).

There never has been a time, in the history of the medical profession, when the necessity for a powerful, cohesive organization was any more important than at present. There is a strong tendency, on the outside, for a great many people who know little or nothing of the practice of medicine, to attempt to tell us exactly what to do in that practice. There is a strong tendency toward state medicine, governmental medicine, and organization medicine, as apart from the interest of the individual practitioner. If medical men are willing to accept that tendency, well enough; if we believe on the other hand, that we have performed our duties fairly well to society and that we have certain rights to be protected, then it behooves us more closely to unite our organization forces.

As medical men, naturally we are altruists, and we have been inspired with a desire to serve our fellow men; I would not say one word to overcome that thought and that tendency of medicine, but I believe that in the past perhaps too much emphasis has been put on the subject of what we owe the people, and now the time has come when medical men must let the people know what they owe to medicine.

A generation ago, for instance, an average doctor in a small community could make a fairly respectable living from the treatment of a relatively few diseases. In a country community, typhoid, malaria, the summer bowel troubles and the ordinary infantile complaints would keep an average man fairly busy, with a fairly decent income. Advances in medicine of which we are proud, have wiped out that source of income to physicians, and yet we have gladly made the sacrifice. I might say that there is no profession, and I do not except the ministry in this remark, that has done more for the welfare of the masses of people of this world, without compensation or selfish thought, than the medical profession has done, and I believe it is up to us sometimes now, not simply to discuss what we owe to the public, but radically to call the attention of the public to what medicine has given to them and what is due in return for medicine.

In many of the cities today the tendency of social workers and other investigators is to expect that our county hospitals, supported by taxation, intended for service to the poor people of the communities, the charity patients, shall provide also a charity service for people who are abundantly able to pay. Great care should be exercised by doctors in aiding the establishing of free clinics of any kind—such as, children, cancer, tuberculosis; to see that none but the deserving poor are treated, and all others are returned to their family doctors. The Cleveland Academy of Medicine has worked out a plan, in cooperation with the public dispensaries, whereby patients who require medical attention are saved for the family physician if they have once been treated by him, or referred to a phyisican if they can pay anything for the treatment. The plan is worthy of investigation by every local society.

An exhaustive report of the plan can be found in Modern Hospital, March, 1934.

There is a tendency in many communities for health authorities to undertake wholesale vaccination and diagnosis of conditions of all kinds, of school children from families that can well afford to pay the family doctors for those services. By following the suggestions of the Kellogg Foundation, as did the medical professon of the city of Detroit, where the family doctor is allowed to keep in contact with the children in the family, this insidious inroad into the general practice of medicine can be controlled, at least to some degree.

During the past year the Arizona Industrial Commission has cut from three-fourths to one-half in some instances the fees for services rendered by doctors to injured employees coming under its jurisdiction. It is to be hoped that this is a temporary measure only, designed to meet an emergency and with a tentative time limit; if not, it should be resisted strenuously for three reasons: Because the fee fixed by the Commission to a great degree sets the price for similar service in general practice; because lowering of fees has a tendency to lower the standard of service rendered; and, because it materially affects the income of the doctor. It would seem, that for the best interests of all concerned,—the patient, the Commission, and the doctor,—the accepted standard for fees should be the same as that which prevails in the community for similar treatment. In a recent survey by the American College of Surgeons it was shown that this schedule has been adopted by the large majority of states, and in some states is incorporated in the act creating the Commission. It seems to me, that a committee should be appointed from the State Medical Association to confer directly with the Industrial Commission in an attempt to adjust our differences.

The Principles of Ethics of the American Medical Association emphasizes the duty of the physician to aid in educating the public properly regarding the facts of medicine. Thus the medical profession secures public cooperation in the prevention of epidemics and in the control of disease. The manner in which public education shall be carried on has been the subject of acrimonious discussion at various times, probably, no doubt, because customs vary in different communities and because of the lack of any written code providing a detailed consideration of the subject.

Considerable clarity is brought into the situation by the recent adoption, through the Comitia Minora of the Medical Society of the County of New York and the Council of the New York Academy of Medicine, of a series of principles governing contact of phyisicans with the public through the press, the lecture platform, lay periodicals and the radio. The necessity for proper publicity and education is recognized in the preamble. Moreover, legitimate news of the election of officers, opening of hospitals and awarding of prizes is recognized as desirable, and the use of a physician's name in this connection is not considered reprehensible. The committee does condemn exploitation or advertisement of individuals featuring their comings and goings, their connections, and their achievements and honor—in other words, the kind of publicity most sought by the group characterized by experienced newspaper men as "publicity hounds."

The following regulations have been adopted by both organizations with the understanding that failure to comply will make the offender liable to disciplinary measures by the Medical Society of the County of New York, the Academy of Medicine, or both:

1. A physician shall not directly or indirectly seek publicity for himself tending to call attention to his professional attainments or activities.

2. A physician shall not issue testimonials or endorsements calculated to promote the sale to the lay public of any product in any way related to health or the prevention and cure of disease.

3. A physician shall not issue, or authorize for publication, his photograph in connection with any matter affecting his or her professional relationship with the public.

4. When reading a paper over the radio, neither the announcer nor the physician should give more than one of his titles, nor give notice of his own medical experience or accomplishments.

Our New York colleagues have here taken an advanced and noteworthy step in establishing the relationships of modern medicine to the public. It is conceivable that experience, the changing of customs and the passing of time may make necessary some modifications in these principles. Nevertheless, their codification provides a basis for study and will do much to establish proper medical education more widely. Those who have looked askance at all such efforts may view with fear and trembling this legalization of medical publicity; those who have taken part in the progress in this field, already made by many county and state medical societies, will see in this code an attempt to bring order into a situation where chaos has been an obstruction.

It would seem to me that much good would come, particularly from an educational standpoint, if some such code were adopted by our county medical societies here in Arizona.

INDICATIONS FOR SURGERY IN THE TREATMENT OF DISEASES OF THE THYROID.

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Morenci, Ariz.

(Read before the nineteenth annual session of The Medical and Surgical Association of the Southwest, held at El Paso, Texas, Dec. 7 to 9, 1933).

Indications for surgery in the treatment of any condition are those symptoms and signs which demand surgical interference for relief. In the several types of diseases of the thyroid gland, such indications depend largely upon two factors, namely, (1) the relative inadequacy of other lines of treatment, and (2) comparative safety of the surgical procedure.

The clinical division of diseases of the thyroid into four groups is the simplest: (1) infections, (2) toxic and (3) non-toxic goiter, and (4) malignancy.

INFECTIONS

Acute infection of the thyroid is rare, and may occur as an independent process, but more commonly is associated with a generalized pyemic condition, such as in typhoid or the puerperal fevers. The organisms very probably reach their destination by way of the blood stream. In addition to systemic symptoms of bacterial invasion, one sign, which is quite constant and characteristic, is a notable induration of the gland. This hardness is due to increased tension within the non-elastic capsule, and may involve the entire gland or be limited to a part of one lobe. Pain, especially painful deglutition, is an early symptom, and localized tenderness is pronounced. Mild cases usually subside in from two to seven days, requiring nothing but local applications of heat or cold, and symptomatic treatment.

In acute thyroiditis with severe symptoms, where the stony hard area is clearly defined, the treatment indicated is surgical. The gland is exposed, and when pus is found, drainage is established. If necrosis without pus formation is encountered, the necrotic area should be excised and drained. Prognosis is excellent, if no more than simple drainage, or removal of gangrenous tissue, is quickly accomplished. Attention to any tumor of the gland should be postponed until a later date.

Acute infectious processes generally leave the gland unimpaired as to function. It is not unusual, however, for acute hyperthyroidism to follow acute thyroiditis; or a state of true myxedema may result when a very severe infection terminates in extensive necrosis and sloughing of parenchymatous tissue.

Following are two case reports:

In July, 1921, a married woman, 31 years of age, was seen, whose complaint was a painful, tender neck, associated with fever and general malaise. For about two years she had been treated medically, elsewhere, for a mild hyperthyroidism. Four weeks before her present illness she had suffered an acute flare-up of a chronic pelvic infection, recovery from which had been apparently good. Examination disclosed diffuse tenderness of a nodular thyroid, which was but slightly enlarged and moderately indurated. Recovery from acute symptoms was complete in 4 or 5 days, symptomatic treatment alone being required. But the pre-existing hyperthyroidism seemed to be stimulated into much greater activity, becoming steadily worse until thyroidectomy was performed three months later.

In March, 1929, I saw in consultation a married woman 33 years of age. For eight days she had been confined to bed with a "stiff neck," much resembling acute torticollis, except that the complaint was accompanied by a septic type of fever (between

100° and 104°) with corresponding constitutional symptoms. She had three children. A medium-sized nodular goiter had been present since her last pregnancy, four years previous. Objective findings were negative but for decided muscular resistance in the region of greatest tenderness, just above the attachment of the left sternomastoid to sternum and clavicle. The true nature of the condition was not suspected until surgical exploration discovered an abscess of the lower pole of the left lobe of the thyroid. Drainage resulted in prompt recovery. There were no sequelae. No exciting cause of the infection was demonstrable, or obtainable from the history.

Of the chronic infections, tuberculosis and syphilis are only occasionally encountered. The former is probably never primary, though typical tubercles can be found in the thyroid in from 4 per cent to 10 per cent of tuberculous individuals. The disease does not excite metabolic disturbances, since the cellular proliferation in tuberculosis is of connective tissue rather than of epithelium. The involvement is generally so slight as to escape detection until found at autopsy. A much rarer form, called struma tuberculosa, manifests hard nodules, difficult to differentiate from cancer. For this reason excision of the nodule for examination is indicated.

Syphilitic gummata may appear in the thyroid, causing some confusion in diagnosis. The treatment, of course, is medical.

There is also a chronic infection, peculiar to the thyroid, which is often (almost invariably) diagnosed carcinoma. It is a low-grade, idiopathic inflammatory affection of the gland, first described by Riedel in 1896, and known as Riedel's iron-hard struma. A rare disease, its chief importance lies in its close clinical resemblance to malignancy. Inasmuch as it is impossible to differentiate clinically from cancer, surgical exploration is always advisable. If there are pressure symptoms arising from this hard, fibrous struma, only enough of the tumor mass is removed to free the trachea, ordinarily the isthmus and a small adjacent portion of each lobe.

GOITER

Included in the group of toxic goiters are all those exhibiting evidences of thyroid hyperfunction, whether the pathology is purely hyperplasia (exophthalmic goiter) or simple or nodular goiter with secondary hypertrophic changes. The seriousness of toxic goiter can be appreciated only when we realize that it gravely affects the cardiovascular and central nervous systems; that the tendency is for the damage wrought to these vital systems to become progressively greater and more difficult to repair. There is probably no disease in which treatment is less stereotyped, none in which each case is more a law to itself, than thyrotoxicosis. Beginning in the larger clinics the idea has grown that this condition calls for combined surgical and medical treatment; that, alone, either method will fall short of obtaining the desired result. Patients in this group seek relief from weakness, shortness of breath, palpitation and tachycardia, easy exhaustion, mental irritability, tremor, menstrual disturbances, and exophthalmos. Such complaints respond most promptly and permanently to surgical treatment, preceded and followed by careful medical supervision. Until recently, preliminary ligation of the superior thyroid arteries was indicated in the more toxic cases. But in the last decade, the administration of iodine (Lugol's solution) for a short time previous to thyroidectomy, has obviated the necessity for ligation in all but those few instances (less than 5 per cent) who, in spite of iodine-therapy, maintain a basal metabolic rate of 50 or above. The pre-operative use of iodine has doubtless been the greatest single agent in lowering operative mortality. An average of 40 drops of Lugol's daily is given by mouth for from eight to fifteen days. At Johns Hopkins Hospital and other large clinics, "all patients with signs and symptoms of hyperthyroidism and that have an elevation of the basal metabolic rate, are treated before operation wtih Lugol's solution, whether or not the goiterous enlargement be diffuse or nodular, similar beneficial results being obtained in both types of cases."

The surgical attack upon the gland itself for relief of hyperthyroidism should have for its object greatly to decrease the amount of thyroid tissue. It should never be in the nature of emergency surgery. On the other hand, when the operation has the ear-marks of an emergency, many fatalities are bound to follow. Operative risk assumed by the hyperthyroid has been reduced in the clinics of this country to between 1 and 2 per cent, which, as C. H. Mayo points out, is less than in other dis-

eases of similar severity. The presence of congestive heart failure often makes risk of operation prohibitive. If, however, with appropriate treatment, including physiological rest, iodine, and sedatives, cardiac compensation should be restored to any reasonable degree, the risk of partial thyroidectomy will probably be less than if operation is not performed. According to Lahey, "if there is any uncertainty as to a patient's ability to withstand a one-stage procedure, select for her the two, or even three, stage operation. If one is to err in the matter of too much or too little surgery, let the decision always be on the side of safety."

A considerable degree of success has undoubtedly been obtained by x-ray radiation of the hyperfunctioning thyroid, especially in early cases exhibiting mild symptoms, and in those showing relapse after operation. Administration of iodine has largely replaced radiation in pre-operative treatment, though some men have found the x-ray of value in preparing the iodine-resistant cases for operation. The chief objection to roentgenotherapy as a curative measure is that, at best, the dose of radiation is a matter of guess-work. If insufficient, symptoms are not controlled or will return; while hypothyroidism always follows too heavy dosage. Among the best authorities the consensus seems to be that the uncertainty of the results of radiation, and the inadequacy of medical treatment alone, serve but to emphasize the truth of the dictum that "diagnosis of hyperthyroidism is the indication for surgery." Recurrence of thyrotoxicosis is seen in only 3 to 4 per cent following radical operation; truly a small incidence of failure.

Under the classification of non-toxic goiter are considered those not associated with signs of thyrotoxicosis. Simple goiter commonly appears at puberty. Only rarely, when disfigurement or mechanical symptoms caused by an unusually large goiter, are marked, is surgery suggested for these adolescent patients. Bilateral partial lobectomy is then the usual procedure.

Non-toxic goiter in the adult is a different matter. Whether colloid or adenoma, diffuse or nodular, it should be looked upon as a constant menace to the health of the individual. It is well to remember that in the mature patient there is no such thing as innocent goiter. Indications for removal of non-toxic goiters are three in number, and appear to be rational and indisputable.

First: The ever-present danger of malignancy. Authorities agree that about 90 per cent of cancers of the thyroid occur in goiters which have been apparently benign for from one to fifteen years. There being no way, clinically, of determining early malignant change in these tumors, it is only a safe rule that in patients over 25 years of age all goiters should be removed. Surgical risk is practically nil, less than 0.5 per cent, and is not to be considered in view of the fact that the only cases of malignant struma which have more than a slight chance of permanent cure are those in which thyroidectomy was done, presumably for a benign condition, the discovery of malignancy being made by the pathologist. If at time of operation the pathological report is early malignancy, or doubtful benignancy, the involved lobe should be completely extirpated; and if the other lobe cannot be shown to be benign beyond reasonable doubt, total thyroidectomy is indicated. Thorough irradiation should always supplement the operation. It is necessary, while performing complete thyroidectomy, to exercise especial care to preserve the posterior capsule with its contained parathyroids. Whatever hypothyroidism may follow, can be controlled by the giving of thyroid extract, or thyroxin. But parathyroid deficiency is serious, and much more difficult to treat.

The second indication for operation on the so-called "innocent" goiter is concerned with a rather large group of sub-toxic cases. The tendency for nodular goiters to undergo toxic degeneration is notorious. But symptoms of toxicity are often very mild, with frequent and prolonged remissions, and therefore, easily overlooked by the clinician. The sub-toxic patient is suffering, nevertheless, from low-grade hyperthyroidism, which slowly, over a period of years, undermines the cardiovascular and nervous systems, and may finally lead to fatal heart disease or hypertension. The causal relationship of the thyroid is often entirely unsuspected, and can be decided only by careful periodic examinations and painstaking diagnosis. An increased basal metabolism rate

in the presence of heart disease would be very suggestive, since a B. M. R. of plus 20 or more is not part of the clinical picture of ordinary heart disturbances. Histologically the findings are those of toxic adenoma, with colloid-filled acini, and areas of hypertrophic parenchyma outisde the acini. Since both lobes are generally involved, microscopically if not macroscopically, the logical operation is double partial lobectomy. Writers agree that when hyperthyroidism is associated with unilateral adenoma at any age, it is safest to perform a bilateral resection. Results of operation on patients in this group, while not as spectacular as in the frankly toxic cases, are none-theless gratifying and enduring.

The third reason for surgical removal of goiterous tumors is seen when the increased size of the diseased gland has resulted in disfigurement, or pressure symptoms, or both. The function of the gland seems normal; its size and shape are abnormal. Though it has been shown by actual measurement that some reduction in size may follow administration of iodine in selected cases, results are usually far from saitsfactory, and never as good as from surgery. Symptoms due to the mechanical pressure of the enlarged gland upon surrounding structures vary all the way from a sense of fulness in the neck, to severe dysphagia (from pressure on the esophagus), or marked dyspnea (from narrowing of the lumen of the trachea). It should not be forgotten that even slight distortion of the trachea can become a serious complication in infections of the upper respiratory tract. Tumors developing, or extending, under the sternum are especially liable to cause pressure symptoms. Any goiter, therefore, showing a tendency to become substernal, should be promptly removed. The advantages of operating on substernal goiters before they become very large, are obvious.

As relief from the unsightliness of a large goiter, no treatment offers such good cosmetic result as does a well-performed thyroidectomy. Also, there is no operation in which it is more important to get an "invisible," non-adherent scar. In young individuals there is an excellent chance that simple thyroid enlargements will subside, and for these it is both safe and wise to do nothing.

MALIGNANCY

The prevailing belief that cancer of the thyroid is extremely rare, is erroneous. The etiology of the neoplastic change is not known, more than that the presence of nodular goiter is a strongly predisposing factor. Malignancy is so seldom associated with the exophthalmic type that this source is really negligible. That it is present, however, in between two and four per cent of simple goiters in patients over 25 years of age, is found in the statistics of European and American clinics. Moreover, in nine out of ten cases of cancer of the thyroid there is history of pre-existing benign tumor. Removal of such tumors before there is the least sign of malignancy is certainly the best prophylaxis.

Malignancy arising in adenoma comprises, according to Mayo and Crotti, from 80 to 90 per cent of all malignant strumas. Second in frequency to show malignant change is the papilloma. The point to emphasize is that operative mortality in cases where malignancy could not be detected except by the pathologist, is about 1 in 300, with 95 per cent of permanent cures.

Signs and symptoms pointing to a diagnosis of malignancy are, unfortunately, seldom present until the growth has broken through the capsule of the gland and invaded surrounding structures. The Mayo Clinic finds the basal metabolism rate to be of no diagnostic importance in the different items of malignancy. History of recent rapid growth is very suspicious. Early in its process of extension the tumor mass may be unilateral. It is hard and nodular, fixed in its bed. The patient complains of an uncomfortable sense of pressure in the neck, dyspnea, and loss of voice because of paralysis of a vocal cord. When from such history and physical findings the diagnosis is apparent, it is likely that no surgery, other than palliative, can be justified, since few, if any, have been cured by surgical or other means. Immediate surgical mortality is high (10 to 20 per cent), and even though metastasis may not be demonstrably present, recurrence is almost certain to follow. The average postoperative expectancy of life is stated as follows: for sarcoma, six months; for carcinoma, one year and five months. It is probably better to consider these patients inoper-

able. In no other malignant condition are radium and x-ray of greater value, though cures can hardly be expected. Results reported by German radiologists and by Craver in America, are better than those accomplished by surgical procedures.

CONCLUSIONS

In infections of the thyroid, surgery is demanded in severely acute cases. Also, in the chronic conditions, Riedel's struma, and struma tuberculosa, exploratory operation is often necessary to differentiate from cancer.

Except in the simple, diffuse enlargements of adolescence, surgery alone, or combined with medical treatment and radiation, is indicated in the treatment of all benign goiters whether toxic or non-toxic. Surgery with irradiation is the ideal therapy for early malignancy. The clinically malignant goiter is generally inoperable.

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NOTE

(A companion article to the foregoing, entitled "What to Expect from Surgery in Treatment of Exophthalmic Goitre," by Drs. W. L. and C. P. Brown and J. L. Murphy, of El Paso, will appear next month. It was omitted from this issue owing to delay in preparing the accompanying statistical tables.)

X-RAY AND RADIUM TREATMENT OF HYPERTHYROIDISM

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El Paso, Texas

(Read before the Nineteenth Annual Session of The Medical and Surgical Association of the Southwest, held at El Paso, Texas, Dec. 7 to 9, 1933).

That hyperthyroidism is an important symptom complex in this section of the country, is evidenced by the vote of this society to consider its treatment by the three outstanding methods in vogue today, namely, surgical, by irradiation, and medical. It is my privilege to present the subject from the viewpoint of the radiologist. We do not wish, however, to be considered as depreciating the value of the other two methods and, likewise, we trust the other essayists will give to radiology the credit it deserves. It required about thirty years for the surgeons to convince the medical men that surgery was an accepted treatment for goiter and now, after about thirty years, the radiologists are accumulating statistics of such value that radiology is being considered favorably in many quarters.

The subject then resolves itself into a discussion of the following points: (1) Is any one of the three methods of such value that the others may be discarded? (2) Shall the treatment be selected for the individual patient? (3) Are there cases in which a combination of all three methods are desirable?

What constitutes hyperthyroidism? For the purpose of this paper, there may be discarded the many anatomical and pathological classifications applied to thyroid glands with an excess of secretion, and it is assumed that excessive function may be associated with a gland normal in size, a gland that has hypertrophied, or a gland containing adenomatous tissue or an excess of colloid.

Whether it is infectious in orgin, or due, as more generally believed, to a deficiency of iodine in the plant life and drinking water of the communities where goiter is endemic, has little bearing on the question of irradiation therapy. It is, however, interesting in this connection to note that the Department of Agriculture has determined that, in regions where

sows give birth to myxedematous pigs, it is only necessary to feed the sows food from a non-goiterous region to have them produce normal pigs.

Clinically the picture of hyperthyroidism is characterized by tachycardia, fine tremor, nervousness, flushing, sweating in palms, loss of weight and strength without decreased appetite, tolerance to cold, intolerance to heat, vomiting and diarrhea, high basal metabolic rate, and exophthalmos in about 10 per cent of cases. The necessity for a complete examination is in no class of case more essential than in hyperthyroidism. While the many abnormal conditions present in these patients are variable, they very frequently have a direct bearing on the case. The basal metabolism test is the most useful of the laboratory procedures, but, like many laboratory procedures, must be accurately performed and evaluated if its results are not to be misleading. In the absence of a metabolism apparatus the D.V.A. (duration of voluntary apnea) as advocated by Drs. Bartlett and Bartlett[1] may be substituted. The normal individual should be able to hold his breath on full inspiration for 72 seconds, and on expiration, 48 seconds. The general average of the cases upon which they operated was 47/24. Where the D.V.A. dropped to 22/13 the case was considered a poor surgical risk.

Suitable for irradiation (irradiation is treatment by x-ray or radium) are all forms of toxic goiter in which the tumor is not producing marked pressure symptoms. Also any case where surgery is contra-indicated by reason of an intercurrent disease such as diabetes, heart disease, and so forth.

Irradiation therapy of hyperthyroidism is free from many of the objections to surgery. The mortality is zero. There is no question of safe anesthetic. No detailed technic which may go wrong and injure the recurrent laryngeal nerve or the parathyroids. No air embolism; no acidosis; no post-operative toxic crisis. There is little wonder that the surgeon approaches thyroidectomy with seriousness. Irradiated patients are seldom hospitalized and in most instances continue with their usual occupations, giving only added special attention to rest and diet. It is easier to secure the cooperation of the irradiated cases as they are not so prone to do as they please because of the feeling that the operation is the whole of the cure. Again they are contacted more often and their daily life and habits are better regulated.

There is no danger to the parathyroids, and myxedema very seldom follows irradiation. The length of time required for treatment by irradiation is used as an argument in favor of surgery, but this is not as great as it might seem. The average surgical preparation takes about two weeks; allow two weeks for the operation and thirty days for convalescence, and two months have been used. During that same time a patient being treated by irradiation should show a marked improvement although he will still be under treatment. Again, where the surgeon has had only one guess as to the amount of tissue to be removed, the radiologist has several and has the advantage of being guided by the patient's progress and basal metabolic rate.

The question of injury to the heart through delay by patients first trying irradiation seems not to be well founded. Holznecht,[2] who has reviewed the literature, failed to find a single case that had been injured by delay. On the contrary, there are many eminent surgeons who advise irradiation to prepare their worst cases for operation. There are others who believe irradiation to be suitable for cases with a basal metabolic rate below 40.

There are certain advantages to surgery. The length of time until the maximum advantages are secured is shorter and there are probably a few less recurrences, although from available statistics it is impossible to give definite figures for either form of treatment.

Often we hear patients advised that they should have their thyroid removed to prevent the possibility of malignancy. It would seem that malignancy should not enter into a discussion of hyperthyroidism. Pemberton and Frick[3], reporting on 161 carcinomas of the thyroid gland at the Mayo Clinic, state that, "In none of our cases did carcinoma arise in exophthalmic goiter." Hertzler,[4] states that he has never been able to convince himself that he has cured a malignant tumor of the thyroid by operation and believes that it is well to stick to the basic truth that glands that are

hyperactive are not malignant. Pfahler[5], by correspondence with eight of the outstanding radiologists of this country, traced the results in over 1200 cases of toxic adenoma that had been treated by irradiation, and found not one in which malignant degeneration subsequently took place. He, therefore, concluded. "Since carcinoma of the thyroid seems to be especially sensitive to irradiation, we may in fact be preventing or curing such early degeneration." It is well also to note that in El Paso, not being in a goiter district, the normal ratio of malignancy to goiter, i.e. 1-300, is low and malignancy is met with here far more frequently than the general average indicates.

Results of irradiation treatment have been well shown by Menville[6], who collected from seventy-five radiologists their results in 10,-541 cases. Percentage of cures are given as 66.22 per cent. Marked improvement, 21.05 per cent. Recurrences, 8.45 per cent. Failures 12.4 per cent. Treated after operation, 9.95 per cent. Number of cases in which surgery failed, 979. Mneville notes in connection with the survey that the poorest results, as in surgery come from the smallest groups treated. It is probably only fair to assume that, if we had a large radiological institute treating goiter by irradiation, much better results would be obtained. The ability of such a group to control the many factors, such as focal infection, overwork, fear and worry, family disharmony, gastro-intestinal symptoms, subjective heart symptoms, and the many other allied pathological conditions, would be a big factor in improving the end results.

Krause[7] has collected 1342 cases treated by irradiation and gives the results as good in 82 per cent; poor, in 18 per cent. From these and various other tabulated results, one must conclude that irradiation as practiced during the past ten years gives, on an average, 65 per cent of symptom-free patients. Fifteen to 20 per cent improved and returned to their occupations. Ten to 20 per cent do not improve and it is in this latter group that more careful diagnostic care should be exercised before abandonment or condemning the treatment.

Statistics in goiter must, however, be taken as approximate only, for any statement as to results that does not take into consideration the life span of the patient, is not complete.

The surgical mortality rate so often quoted and originating from a few large clinics, unfortunately does not represent the true status of the goiter patients. It also gives a wrong impression when it fails to take into consideration the many postoperative complications. These are very nicely handled by Jackson[8], who, in a recent issue of the Journal of the A.M.A., lists the number as twenty-three.

In our treatment we have used the x-rays and radium interchangeably, considering them of equal value. The radium has been used principally on highly toxic cases with fibrillation to such an extent that the patients were confined to bed in their homes or in a hospital. The radium technic consists of blocking-off the thyroid and applying 100 milligrams, heavily screened, at a distance of 3 cm. Fifteen hundred milligram hours is given at a treatment; the second treatment is given in two weeks, and after that every third week.

The x-ray technic consists of 140 KV 5 milliamperes, 12 minutes, filtered through 4 millimeters of aluminum, at a distance of 38 cm. This treatment is given through each of two semilateral ports and extends down over the thymus area, as it has been shown that the thymus is frequently enlarged in goiter cases. The same interval is used as in radium treatments. Neither of the above technics will produce structural changes in the tissue that will in any way interfere with a subsequent operation, should it be deemed advisable. In a test made elsewhere, it was shown that neither surgeon nor pathologist can pick the cases that have been irradiated. Adhesions are sometimes present at operation, but these are the result of inflammation in the diseased gland and occur in the untreated as often as in the treated cases.

Irradiation acts on the gland by first reducing the secretion of thyrotoxin; later, this is followed by a shrinkage in the tumor. The thyrotoxicosis disappears more rapidly than the goiter.

Iodine in the form of Lugol's solution, five to ten drops in milk t.i.d. pc., or quinine hydrobromide, Gr. V t.i.d. pc., is used as an adjuvant during the early weeks of the series of treatments, but is discontinued as the basal

metabolic rate approaches normal, thus leaving to irradiation to establish the normal amount of secretion to be retained.

Our patients were referred for treatment by physicians of outstanding ability who would not continue to refer cases for irradiation in preference to surgery if results were not equally as satisfactory, for it is a well-known fact that all too often it falls to the lot of the internist to discover the patient behind the thyroid and worry along for years with the patient registered as cured, in the surgical column.

A brief review of eighty-three cases treated since 1924, is presented. A few cases treated prior to 1924 are not included in the series, due to lack of proper basal metabolism control.

From this group we are excluding four cases: one, a woman of 72 with a basal metabolic rate of plus 17, in which the attending physician has changed the diagnosis; three patients who were operated upon after the second treatment, before sufficient time had elapsed to properly evaluate the treatment. Six of the cases in this series had been previously operated upon and had recurrences. In this group, sixty-five were females and fourteen were males. The age limits varied as follows:

Under 20	7
20 to 30	20
30 to 40	27
40 to 50	12
50 to 60	8
60 to 70	5

The average metabolic rate at the beginning of treatment was plus 31.58, and at the completion of treatment, minus 1.25. The average gain in weight was 8 pounds.

The average number of treatments given in our series per patient, was 7.

Three patients treated by irradiation have returned because of recurrences: one after six years; the others after two years. There may be others who have had recurrences that have not been reported, as the follow-up system is by no means perfect. It is impossible to give statistics as to final results in so recent a series, but from our experience we feel justified in drawing the following conclusions:

1. Irradiation is a therapeutic measure of comparable value with surgery in the treatment of hyperthroidism, in all cases not complicated by an excessive size of the gland from colloid or cystic material or the presence of a large amount of fetal adenomatous tissue.

2. Irradiation is superior to surgery in the adolescent enlargement with thyrotoxic symptoms, under 20 years of age.

3. The zero mortality, absence of pain and suffering, as well as the economic advantage of irradiation, are decidedly in its favor.

4. The internist is still a major factor in the care and treatment of hyperthyroidism and there exists greater need for closer collaboration between the surgeon, radiologist, and internist.

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THE HEART IN THYROID DISEASE

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(Read before the Nineteenth Annual Session of The Medical and Surgical Association of the Southwest, held at El Paso, Texas, Dec. 7 to 9, 1933).

The two thyroid ailments causing heart symptoms are hyperthyroidism and hypothyroidism.

Is the general fear of heart failure in hyperthyroidism justified?

Is it the main cause of death in hyperthyroidism?

How badly is the heart injured by prolonged hyperthyroidism?

Is iodine injurious?

What are the effects of hypothyroidism or myxedema on the heart?

CASE 1. Real estate man, aged 52 years, was

referred by Dr. J. D. Love, Dec. 31, 1925, for heart disease. I found him bedfast, greatly emaciated, nervous, very restless, appetite poor, some vomiting, constipated, mouth foul, tongue coated, heart rapid —150 per minute and tumultuous in action. He had gone from 180 to 115 lbs. in weight.

For ten years he had had similar spells of short duration, with intervals of a year or two of very good health. For some time the diagnosis was in doubt but finally eye signs and goiter put the label on his ailment.

Under iodine the heart rate fell to 100, the fibrillation stopped, the blood pressure rose from 90 systolic to 120/76. In two months he gained 15 pounds and his metabolism was plus 7. July 7, 1926, his heart was again fibrillating, pulse 120 after being off iodine only ten days. Iodine was resumed and in a week the heart was again regular, pulse 96.

During the next two years he continued to pass through the same cycles. Finally fibrillation became permanent, mental derangement followed and he was sent to the State Hospital in San Antonio, where iodine was continued, with rest and forced feeding. Oct. 14, 1929, he wrote that he had gained 67 pounds, that the goiter was smaller, the pulse 80, and that his strength had returned. He died in 1931, cause unknown.

One must consider that this man's hyperthyroidism began in 1915, a total duration of sixteen years. At the end of this time he apparently had less heart faliure than when I first saw him. This I think discredits the idea that unchecked hyperthyroidism will soon damage the heart beyond repair. It is also to be noted that the iodine did not lose its effect but caused a remission of his crises promptly. In a considerable experience with iodine in hyperthyroidism among laboring people, I have seen nothing but benefit from its use continued for years. I think the fear and apprehension as to the injurious effects of iodine in goiter have about subsided. Haines[1] of the Mayo Clinic now says that in hyperthyroidism iodine should be adminsitered constantly and not intermittently during the course of the disease. McClure[2] is not at all convinced that overdosage of iodine does any harm. In the Johns Hopkins Syphilitic Clinic, in a series of 6000 patients, some taking as high as 120 grains of iodides daily for 12 months not a single case developed hyperthyroidism. In a Detroit clinic with over 3000 cases taking iodides, only one or two have come under suspicion of developing hyperthyroidism, and this in a goiter region. Dautrebande[3] in Belgium has found long steady administration of Lugol's solution, 10 to 40 drops daily, and larger doses if the metabolism is not controlled, to produce excellent results in 75 per cent of his cases of hyperthyroidism of both types. He continues it for a year after operation. So I think the general practitioner should make full use of this drug; and the fact that iodine had been given sometime in the past should not be blamed for surgical mortality that is inevitable in the best of hands in certain cases.

I think this case too, shows that the danger of heart damage is not so imminent as often imagined, and haste in operation is seldom necessary, especially where intelligent medical treatment can be carried out. At the same time, surgery or radiation in this case might have resulted in cure. Personally I have had no permanent cures without one or the other of these aids, although some mild cases apparently make spontaneous recovery.

CASE 2. Salesman, age 48 years, was referred by Dr. Rogde for diagnosis, Sept. 3, 1930. He complained of palpitation, dyspnea, and smothering spells. He had lost much weight in spite of a good appetite.

In 1919 he had pyelitis and his weight fell off from 200 to 140 pounds. Another time all his teeth were extracted and he lost 35 pounds. For the last year his legs and scrotum had been swollen. Six days before I saw him his chest had been fluoroscoped and a dense shadow was seen in the right lower lobe more marked next to the diaphragm and spreading upward. This, with a palpable rather hard liver, suggested a probable malignancy.

On examination his whole body was edematous. There was a large amount of acites and some fluid in both pleural cavities. Blood pressure 140/80, heart absolutely irregular, vessels of neck pulsating. The heart dullness extended 4 cm. to the right of the midsternal, of good tone with no murmurs. So far no diagnosis had been made. His right pleural cavity was aspirated and he was given digitalis and theosin. After this another x-ray examination demonstrated the absence of lung tumor. As the edema subsided, the right lobe of the thyroid was large and the isthmus easily palpable. This, with his history, made hyperthyroidism quite certain. Basal metabolism was plus 40.

He was given Lugol's solution and sent for x-ray treatment. At the end of three weeks he was feeling much better, no edema except for varicose veins in the legs. He had gained seven pounds, and his fibrillation had stopped. Six months later the left border of the heart was 10.5 cm. from the midsternal line, basal meabolism plus 17. He was still on iodine. Dec. 31, 1931, the metabolism was minus 15. For the past two years he has been working constantly, carrying much responsibility and going to high altitudes with no signs of heart failure.

While the diagnosis of hyperthyroidism is said to be easy I have not found it so in all cases. This man had traveled from Mexico to San Francisco and New York and no one had mentoined hyperthyroidism. The case illustrates the efficiency and safety of x-ray treatment where surgery would hardly be attempted. Charles Mayo has often said that hyperthyroidism is never a surgical emergency.

The rapidity and completeness of this patient's recovery supports the growing belief that uncomplicated hyperthyroidism is not capable of causing permanent heart disease.

It has been the common opinion among surgeons and others that death in hyperthyroidism is due to the heart. Willius[4] says that such has not been their experience at the Mayo Clinic: "In 178 autopsied cases, congestive heart failure occurred in twenty-seven. In eighteen of these (67 per cent) coronary sclerosis, acute or chronic pericarditis, rheumatic endocarditis, or syphilis, was present. In nine cases (5 per cent of the 178 cases) there was found no other cause for congestive heart failure than hyperthyroidism." Hyperthyroid cases are found to die of infections, pneumonia, arterial embolism, pulmonary infarction, and so forth, and are not exempt from cancer of the stomach, leukemia, and other fatal diseases. Even where heart failure occurs, it is generally quite chronic, as in the two cases just discussed, and the heart is not progressively damaged.

There has been much recent work on the heart failure of hyperthyroidism and in general the findings agree with those of Rake and McEachern,[6] who say that: "Both autopsy and experimental material point to the fact that hyperthyroidism by itself produces no specific lesions in the myocardium."

According to Yater,[7] heart failure occurs in hyperthyroidism because of the direct action of thyroxin on the heart muscle, increasing the rate and energy of contraction. With the increased rapidity of the circulation, there is a corresponding increase of metabolism in the heart and other tissues, and with this an excess of metabolites in the blood stream. The local action of these metabolites in the vessels causes peripheral vascular dilatation, and this accounts for the wide pulse pressure and the jumping carotids in these cases. The circulation of the blood is speeded up at times to almost double the normal, while the widening of the peripheral blood stream increases the volume of the blood and puts the heart to a great mechanical disadvantage, leading finally to exhaustion of its reserve and heart failure in certain cases.

The whole cardiovascular upset results from an unmanageable thyroid pouring too much thyroxin into the blood, and can be stopped only by destruction of the gland by surgery or x-ray. The conquest of hyperthyroidism remains to be accomplished. The prevention of goiter by iodine has already reduced the prevalence of hyperthyroidism, and this partial success in therapy may lead to other discoveries. Finally, hyperthyroidism is destined to become a purely medical disease.

CASE 3. A school principal, age 57 years, had a thyroidectomy, April 25, 1926. Her hyperthyroidism had lasted a year or more and was complicated by a mild psychoneurosis of periodic type. Her basal metabolism was 131, blood pressure 200. She had lost 60 pounds in weight and was easily exhausted. She had angina pectoris in 1924.

A year and a half after thyroidectomy she was referred to me for heart examination. She had been urged to walk to build up her strength but was completely exhausted after going four blocks. She had attacks of sudden nocturnal dyspnea, spells of dizziness, nausea, diarrhea, and fever, was very emotional, cried easily, had a poor memory, taking half a day to write a letter. Her speech was slow and hesitating, hair and skin dry, face swollen. The heart appeared normal, sounds well produced, with no murmurs. An electrocardiogram showed low complexes in all leads. I made a diagnosis of myxedema and suggested thyroid, 3 grs. daily. However, she put off taking it until in Rome, a month or two later, the diagnosis was confirmed by Dr. Colazza and she at first took six grains of thyroid daily, but this had to be reduced to 2 or 3 grs. She made rapid improvement but is still on thyroid. Her mental condition is quite normal, she walks long distances with only slight dyspnea. Blood pressure 144/88. The electrocardiogram shows normal voltage and normal T and R waves.

Myxedema after thyroidectomy may be slow in developing and heart failure may come still later. With the administration of thyroid, the heart muscle is stimulated and the speed of the circulation increased. Lack of thyroxin causes general muscular weakness including the heart, and the speed of the circulation is reduced, falling parallel with the metabolism. Poor blood supply to the brain accounted for her mental sluggishness and poor memory.

The early giving of thyroid has prevented damage to the heart. In myxedema there is increased cholesterol in the blood, coronary sclerosis is common, and angina pectoris occurs in some cases.

The two following cases were operated in a well-known Cleveland clinic.

CASE 4. Housewife, age 52 years, was seen, with Dr. Mallory, Jan. 11, 1927. Her heart was fibrillating before operation in Ohio. After operation she was very weak, blood pressure low and heart action feeble, with coupled beats. These disappeared under atropine. The electrocardiogram showed very low voltage in all leads. She was given one-quarter grain of thyroid t.i.d. and six days later the electrocardiogram showed normal T waves and greatly increased voltage. She continued taking thyroid and made a very good recovery.

CASE 5. Male, age 49 years, came to me for several years for nervousness. He always improved on iodides, which relieved his aches and pains, and I was satisfied with a diagnosis of neurosyphilis. Later he developed typical hyperthyroidism and was operated in Cleveland. Six months after the operation he was unable to work, was completely exhausted on effort of any kind, memory poor, dizzy, and so uncertain of himself that he could not drive his car. Skin was rough and dry, eyes puffy. His myxedema responded well to thyroid, 3 grs. daily. He still takes it at intervals.

Myxedema is the same disease whether postoperative or not.

CASE 6. Mexican woman, age 59 years, was referred to me by Dr. Love, Oct. 30, 1933, because of prolonged and unmanageable heart failure. Her legs, feet, and body had been edematous for several years, but for the last three months much worse. She was exhausted by the mildest exertion and unable to sleep except in a sitting position. On account of previous free use of alcoholic drinks, cirrhosis of the liver was suspected and she was sent to the City-County Hospital for study in September.

She was very cyanotic and dyspneic. Temperature 98.6°, pulse regular, 88, respiration 26. Lungs showed a few dry rales. Heart sounds normal, no murmurs. Laboratory report; red cells 6,850,000; hemgb. 135 per cent; leukocytes, 10,800. Urine normal except for albumin plus. The diagnosis at the hospital was heart failure with edema and nephritis.

Digitalis and salyrgan treatment was given and the belly tapped, but no fluid was obtained. On two ocacasions, 500 cc. of blood were withdrawn from a vein. She left the hospital in ten days, somewhat improved.

I saw her two months later. She was still on digitalis, but her condition remained the same. She was drowsy all the time. Her speech was slow and uncertain; she complained of being cold all the time. Her skin was dry, arms hairless, face swollen, girdle obese, abdomen large and pendulous, buttocks and hips thickly padded with fat. Weight 295 pounds. Circumference of abdomen, 53 inches. The heart appeared but slightly enlarged, sounds well produced, no murmurs. Blood pressure 130/88. Wassermann and Kohn tests negative. Hmgb. 100 per cent. The evidence pointed to myxedema. The thyroid was not palable. The digitalis was stopped and thyroid, 33 grains daily, and Epsom salts were ordered. Three weeks later when I visited her she was at work. Her edema was nearly gone, her drowsiness had disappeared and mental condition was normal. Electrocardiogram at this time was normal except for notching of R in lead 2.

Heart faliure due to organic disease alone does not respond to thyroid. We must consider the heart failure and edema in this case as due to feeble heart action from thyroid deficiency. A similar picture has been produced in thyroidectomized sheep—flabby heart, absence of cross striation in heart muscle, ascites, and so forth. In these animals arteriosclerosis also resulted.[8]

The medical treatment of myxedema is quite dramatic in its results and should be attended to before organic damage to the heart has resulted. The danger from this source is greater than in hyperthyroidism.

In some instances, it is said, heart failure or angina pectoris has been caused in myxedema cases by over-stimulation of the weakened heart. I have had no such experience and suspect that in these cases the dosage of thyroid may have been too large.

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HYPOTHYROIDISM

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(Read before the Nineteenth Annual Meeting of The Medical and Surgical Association of the Southwest, at El Paso, Texas, Dec. 7 to 9, 1933).

This paper is to be brief—nothing new or scientific—just my own observations in daily practice.

During the mad rush of prosperity, with only thoughts of big things such as the study and development of ultra-scientific medicine and special surgery, the minor complaints and ailments have frequently been neglected. About ten years ago, I became interested in hypothyroidism after observing a patient, who had been below weight for several years, gradually attain a normal weight by taking thyroid. Since that time I have realized that "being tired" does not always mean overwork or tuberculosis. The results of thyroid medication have been most gratifying. In our enthusiasm, we think in the vernacular of the soap-box orator who speaks of "making the fat lady lean, and making the lean lady—fat."

It has been stated that the thyroid and parathyroid, by means of an internal secretion, exercise an important control over the process of metabolism in the body. We could further say that the function of the thyroid is to neutralize or destroy toxic substances formed in the metabolism of the rest of the body. In my opinion, our locality has a far greater percentage of hypothyroidism than any other section of the country; whether or not this is due to altitude, amount of sunshine, lack of humidity, or chemistry of the water supply, we have been unable to determine. Since it is well-known that hyperthyroidism is most prevalent in the Northwest and around the Great Lakes, where rainfall is abundant, why should we not assume that the lack of rainfall in our own locality, where we have a minimum amount of rain, would account for the greater percentage of hypothyroidism. We may be assuming too much in believing that our locality has a greater percentage of hypothyroidism than other parts of the country, but with the greater percentage of hypothyroidism as compared to the lesser percentage of hyperthyroidism, we still believe that we are justified in thinking that it is a fact. For comparison, I submit the following chart:

	+34
+45-65	4
+35-45	3
+25-35	12
+25	0
+24	2
+23	2
+22	3
+21	3
+20	1
+19	3
+18	1
+17	1
+16	5
+15	5
+14	7
+13	5
+12	3
+11	4
+10	6
+ 9	7
+ 8	4
+ 7	5
+ 6	10
+ 5	9
+ 4	13
+ 3	11
+ 2	9
+ 1	10
+ 0	19
— 1	9
— 2	15
— 3	11
— 4	10
— 5	14
— 6	20
— 7	19
— 8	16
— 9	16
—10	11
—11	29
—12	19
—13	20
—14	14
—15	21
—16	22
—17	14
—18	14
—19	16
—20	20
—21	10
—22	14
—23	10
—24	5
—25	5
—25-35	25
—35-45	2
	—361

During the years of 1932 and 1933, we ran 568 metabolisms on 441 patients; note comparison of 147 pluses, 402 minuses, and nineteen naughts. We consider plus 1 to plus 16 normal, but therapeutically, we would consider all below a minus 5 pathological. The great difference in ratio is demonstrated by the number of 34 above plus 16 and 361 below minus 5. Some few years ago, a series of basal metabolisms was run on seventy-three pregnant women; fifty-eight were minus, and of this number, fifteen were from minus 20 to minus 30. If one looks only for symptoms such as dry hair, brittle nails, over-weight, drowsiness, temperature below normal, and susceptibility to changes in weather temperature, as outlined in text books, one will overlook many cases of low metabolism. Until the past few years, no one would have suspected a tall, thin individual as having hypothyroidism, nor would one have thought of adding weight to such a person by giving him thyroid medication; neither would one expect a nervous patient or one with a continuous fever, of having a lack of thyroxin. As an illustration, I cite the following case (in this instance and in all other cases used as examples, I shall be brief, and shall try to use the patient's own statement as much as possible):

Miss C., age 24 years. Gave history of good health until six years ago. At that time a diagnosis of tuberculosis was made,and patient was kept in bed for six years until she came under our observation in March, 1932. She was told by her attending physician that she had very little trouble and would soon be well; she was apparently well on several occasions; however, following the slightest exertion, tachycardia and elevation of temperature were present. Her weight on going to bed was 120 pounds, and when she came under our care six years later, her weight was 113 lbs. On physical examination and x-ray, we found her chest negative, heart rate 100 to 120, which was accelerated on the least exertion, and a daily elevation of temperature. Her basal metabolic rate was minus 23. After she had taken thyroid, her temperature returned to normal, pulse improved, she had a gain in weight, and feeling of general well-being. The patient was placed on exercise, and has really enjoyed the past year. Despite the fact that she had been taking 1½ grains of thyroid daily, about one year later, she had recurrence of old symptoms, and at this time we became suspicious that tuberculosis really did exist. Her B. M.R. was minus 22. Thyroid, grains 3 daily, was prescribed, and two months later, patient came into office, bragging of her improved condition; she had gained 2 pounds, was doing a great deal of work, had normal temperature and pulse rate of 80.

While observing clinical symptoms, we often find it difficult to conclude whether we are dealing with hyperthyroidism or hypothyroidism—as in the following cases:

Mrs. H., age 28 years. In 1926 had thyroidectomy, and this was followed by a gain in weight. Felt normal until 1932, when she became very nervous, complained of headache, backache, irregular menstrual periods. Her pulse rate was 80, and her B. M.R. was minus 5. She was given thyroid, and made definite improvement. She returned, however, in September of this year with severe headache, marked fine, bilateral tremor, and extreme nervousness. Her symptoms were such that one would have suspected a return of her thyrotoxicosis; however, her B.M.R. was minus 20. We prescribed thyroid, gr. 1 daily; two months later, she was feeling fine, had no tremor, no headache, no nervousness, and had gained 6 lbs. in weight.

Another symptom frequently noted is a feeling of fulness in the throat. The patient states that he feels as if his collar is too tight. The only explanation of this is that the gland hypertrophies, while trying to put out enough thyroxin to supply the body's needs.

Mr. G., age 23 years, illustrates this symptom. On Sept. 18, 1930, he came to us with a history of tired out feeling during summer. At times he felt as if his neck was swollen and complained of choky feeling. Felt below par and was losing all interest in school. His pulse ranged from 72 to 120, and his blood pressure was 110/70. His B.M.R. was minus 13. Thyroid, gr. ½ daily, was prescribed. This was gradually increased to 1½ grs. daily until, by the end of the month, the patient was feeling fine, pulse was 84 and steady, discomfort in neck had disappeared, and patient had complete amelioration of symptoms.

We believe that dysfunction of the thyroid gland accounts for more menstrual derangements than dysfunction of all the other endocrine glands combined.

Miss P., age 20 years, student. Gave history of no serious illness. Had onset of menses at age of 11 years. Chief complain was recurrent attacks of fever which ranged from 99° to 100° and which lasted for several days. To the best of her knowledge, these spells always came on at time of menstrual period. The present spell had lasted for ten days, and she was still running elevation of temperature in afternoon. Her B.M.R. was minus 26. Thyroid, grs. 1 to 1½, was taken continuously from March until November, with the result that the patient felt quite well, and had no recurrence of above-mentioned symptom. After starting her school year again this fall as a teacher, she be-

came tired, and her B.M.R. was minus 21. Thyroid was increased to 2½ grs. daily; following this, patient has been feeling entirely normal.

Occasionally a patient, while taking thyroid, will become very nervous, has fast pulse, tremor, and shows evidence of too much thyroid. This, we believe, is due to the patient's own thyroid gland putting out thyroxin.

Miss G., age 32 years, teacher. History of repeated colds every winter; felt below par and tired easily. Physical examination was negative, but her B.M.R. was minus. Thyroid, gr. 1 daily, was prescribed and gradually increased to grs. 3 daily. She apparently had relief of all symptoms, when she suddenly became very nervous, had fast pulse and so forth. Her B.M.R. had jumped to plus 26. Thyroid was discontinued for a few days, and then grs. 1½ to 2 daily were again prescribed and continued until end of school year. November 27, 1933, or six months following last visit, she states that she has the thyroid down to an exact science. She had taken grs. 1½ daily all summer; but when she started teaching in the fall, she found it necessary to take 2½ grains daily. She states that she is feeling fine, is not tired, and has no colds.

The degree of minus does not always indicate the amount of thyroid that the patient will require. Some individuals who have a B. M. R. of minus 20 will take from ½ to 2 grains daily, whereas another will need from 3 to 6 grains. This may be explained by the fact that our estimate for normal is made from an average of from plus ten to minus ten; therefore, if the patient's B. M. R. should have been a high normal, or plus 10, then a reading of minus 10 would in reality be a minus 20 below the individual's normal B. M. R. In taking the basal metabolic rate, do not be deceived by the first reading, because a minus 10 is often a minus 17 on recheck. In prescribing thyroid, we start with small doses and gradually increase them; in doing this, we find that the pulse, nervous symptoms, insomnia, and general well-being of the patient are very good guides, with an occasional B. M. R. to determine the exact metabolic rate. We have found that thyroid given in the evening will cause insomnia in some cases; therefore, we have made it a rule to prescribe this medication after breakfast and after lunch. The thyroid used in most cases is Parke-Davis' dessicated thyroid; each grain is equivalent to 5 grains fresh gland, and we specify the enteric-coated tablet.

I have often wondered if thyroid taken the day before the B. M. R. is run, would keep the rate up to normal for twenty-four hours following its administration; with this in mind, the following test was made:

A patient, who had been taking 2 grains thyroid daily for several months, had an early morning metabolism test following usual routine; the results were zero. On another day, we had the patient take 1 grain thyroid two hours before test was made, and the B. M. R. was minus 4. Again, instead of the usual preparation for metabolism test, patient had breakfast and performed his usual morning duties; at 9:45 a. m., in spite of the fact that the patient had had no rest, his B. M. R. was plus 6.

Many symptoms and conditions such as eczema, acne, chronic indigestion, chronic constipation, low blood pressure, arthritis, chronic colds, and so forth, are relieved or cured by the use of thyroid. Fancy, if you will, the most common malady—bad cold—responsible for probably more time off duty than all of the other acute diseases combined. In our own organization we have had two examples of the above. The first is a doctor who gave a history of repeated colds both winter and summer for years. His B. M. R. was found to be minus 26. Since taking thyroid, he has not been off duty on account of a cold, and has not had one—except for one instance, when he neglected to take his thyroid while on a vacation. The other example is our receptionist, who had repeated colds. In her position, an adenoid voice was not conducive to a cheerful reaction on the part of our patients, although this condition may have been "good for business." Her B. M. R. was minus 19; and here, too, thyroid was prescribed with highly satisfactory results. Still another example of the above-mentioned symptoms is the following case:

Mr. M., age 56. Gave history of uncomfortable feeling around region of appendix for years. For three months prior to seeing us, had painful and swollen joints, distressed feeling around heart, gas on stomach, and eruption and itching of right leg. Blood pressure was 162/95, and pulse was 70. His B.M.R. was minus 18. After thyroid, grs. 1 to 2, was taken daily, following notation was made at a subsequent visit: feeling fine, heart improved; eruption on leg gone, joints less painful, blood pressure 140/88, and pulse—normal! One year later, April 6, 1931, patient was feeling optimistic about the future; and we feel, as you will no doubt agree,

that if a few pills could have made a man feel cheerful during the gloomy year of 1931, why should we bring back "good, old, Blue Ribbon Malt-a."

Miss S., a graduate nurse, age 26 years. Came under our observation January, 1932, with a history of having become very tired, and of having run continuous temperature of 99 to 100 while in training. A diagnosis of tuberculosis was made; patient was sent to Arizona and ordered to bed. Findings on examination were as follows: lungs were negative to physical examination and x-ray, pulse ranged from to 100 to 140 (depending on whether patient was reclining or standing), and temperature, after patient had been in bed for several days, varied from 90° to 100° plus. Her B.M.R. was found to be minus 26, and January 20th, we prescribed thyroid, gr. ½, to be taken after breakfast and after lunch. Ten days after starting thyroid medication, patient was running normal temperature, pulse 84, was very pleased with her condition, felt more comfortable than she had for months, and wanted to go to work.

Mrs. W., age 37. Complained of headache, nervousness, pain in eye, recurrent boils, lack of energy, tired feeling all the time, also complained of constipation. Metabolism showed a B.M.R. of minus 16. After taking thyroid, the following progress note was made two weeks later; we quote the patient: feeling better, eyes comfortable, no backache, and bowels regular since the first day she started thyroid.

Sister V, age 54 years. Came under observation Nov. 20, 1933, with a diagnosis of enlarged heart and Renaud's disease, when she was transferred from St. Paul, Minn., to St. Mary's Hospital in Tucson. On physical examination, we were impressed with the facies of the patient, and suspected myxedema. Her B.M.R. was minus 36. Thyroid was prescribed and increased until 8 grains were taken daily. This was followed by immediate improvement, and there was a marked change in the general appearance of the patient, especially the facies. The most remarkable result, however, was demonstrated, two weeks after thyroid was first prescribed, in an x-ray which shows marked reduction in size of heart. Summary of x-ray is as follows:

"Films taken Nov. 20, 1933, (Fig. 1) show the greatest diameter of heart 17.1 cm., whereas it is now 15.9 cm. (Fig. 2) The estimated smallest diameter of heart on previous films was 13.6 cm. and is now 12.4 cm. Both stereo sets were taken at 72 inches."

Following is notation made by roentgenologist: "Generalized reduction in size of heart shadow, less fullness at base of the heart, and less evidence of passive congestion than was present Nov. 20, 1933."

A third film was taken Feb. 1, 1934, approximately two months later (Fig. 3). Note contrast in size of heart. No other medication than thyroid had been taken.

Fig. 1 Fig. 2 Fig. 3

INTRAPLEURAL PNEUMOLYSIS, AN AID IN RESTORING FUNCTION TO THE TUBERCULOUS LUNG

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(Read before the Nineteenth Annual Meeting of The Medical and Surgical Association of the Southwest, held at El Paso, Texas, Dec. 7 to 9, 1933).

By the title of this paper I wish to emphasize that intrapleural pneumolysis is the principal surgical procedure which offers hope of restoring to comparatively normal function the tuberculous lung.

We know that adequate pneumothorax, through healing of the tuberculous lung, frequently brings about the production of scars so insignificant that the x-ray picture of the patient's chest after re-expansion of the lung will not disclose to the casual observer which of the lungs has been collapsed. This was demonstrated to me sixteen or seventeen years

ago and has been noted many times since. Such a result should be fairly frequent in these days when the physician treating tuberculosis has learned the therapeutic necessity of instituting pneumothorax at an early stage of the disease, before extensive destruction of lung tissue has occurred. Of course there will always be some cases in which destruction has occurred before coming to pneumothorax, to such an extent that restoration of function may not be expected with the most favorable conditions. Education of the public and of physicians will reduce this number.

Adequate pneumothorax means compression of the actively diseased areas in the lung and closure of cavities. The pneumothorax that markedly decreases the cough and sputum, brings the temperature to normal, and causes the patient to gain forty pounds in weight, but does not close the cavity, is not adequate. It is unnecessary to say why this is so and to bore you with statistics showing the danger to patients of such unclosed cavities.

You know, too, how frequently adequate pneumothorax is prevented by adhesions. Ralph Matson, who presented this subject here fully five years ago, reported 20 per cent of pneumothorax attempts entirely unsuccessful because of diffuse adhesions, 40 per cent entirely successful, and 40 per cent partially successful with ultimate failure because of partial adhesions. Peters and Cornish, before this organization, have cited comparable figures. It has further been shown that ultimate recovery in these cases having adequate collapse is twice as frequent as in those cases having only partial collapse, and conversely the number of those with partial collapse reported as dead of tuberculosis after a definite interim, is over twice the number dead of tuberculosis in those cases with adequate collapse.

The 20 per cent with diffuse adhesions must, of course, be treated by more or less radical surgical means. The 40 per cent with partial pneumothorax furnish a problem which is being handled in several ways.

First is the use of high-pressure pneumothorax to stretch adhesions. The smaller string-like adhesions are susceptible to stretching. Larger adhesions have occasionally been stretched by prolonged high-pressure pneumothorax. I have seen no statistics showing the percentage of such cases that succeed to eventual cure. My experience has been that they are few in number.

There is some danger to the patient in this procedure. The Matsons, after use of it, found spontaneous pnuemothorax 40 per cent more common than in ordinary pneumothorax treatment. Another danger is spreading of infection or hemorrhage from the open cavity while the stretching process is going on over a period of months. Most patients develop a moderate or marked mediastinal displacement and some compression of the contralateral lung, with reduction in vital capacity. Certain patients develop mediastinal herniation and high pressure must be discontinued. Finally, we do not know that the ultimate result will be good.

We do not know, to return to my opening theme, that there will be restoration of lung function in any degree after high-pressure pneumothorax. It is often necessary to collapse undiseased lower lung completely to accomplish high-pressure collapse of an upper-lobe cavity held by adhesions, and this must be maintained long enough for cavity healing. Permanent atelectasis of undiseased lung may occur. Many of these cases, after long-continued pneumothorax is stopped, have marked mediastinal displacement toward the treated side or fail to expand fully, so that thoracoplasty must be done. I feel that three to six months is sufficient, probably too long, a trial of pneumothorax in the presence of adhesions before something else should be done.

The next common method of treatment in the presence of adhesions is phrenicectomy. This is occasionally sufficient to close the cavity, be it at the top, middle, or bottom of the lung. However, I am coming to believe that if an apical cavity alone is being treated and the balance of the lung is good, a hope of eventual restoration of function to the lung should postpone phrenicectomy until other methods have been tried. Scaleniotomy has been too little used to judge of its results.

Thoracoplasty is the final sacrifice of the lung. In certain cases adhesions will admit of no other treatment. But I have had the experience of watching total thoracoplasty, or lung sacrifice, in a case which in my opinion would have yielded well to pneumothorax after what

appeared to be a comparatively simple pneumolysis. This procedure would have offered a hope of lung restoration.

It is the fear of pneumolysis which has made it, in the minds of most medical men and phthisiotherapists, the last procedure to be considered when dealing with adhesions. This fear is, I believe, as unfounded as that which delayed so long a proper general use of pneumothorax. We can all remember this period in the history of pneumothorax, when our bugaboo was the danger of spontaneous pneumothorax, of pleural shock, of air embolism, of undue strain on the opposite lung. We have finally found that none of these dangers is in any degree comparable to the dangers to the patient of not treating his disease with pneumothorax.

Our bugaboo with intrapleural pneumolysis is the danger of hemorrhage, of empyema, of acute pleurisy with effusion, of cavity rupture, of shock. Before discussing these operative complications, let me say that none of these dangers is comparable to that of failing to secure adequate pneumothorax.

Intrapleural pneumolysis, briefly, may be done by the open or so-called closed method. Both methods have succeeded in closing cavities and effecting clinical cures. The open method consists in cutting the adhesions or pleural attachments after they have been exposed to direct vision by means of rib-spreading after an intercostal incision; by means of rib resection and pleural incision; or by means of raising a flap of costal cartilage and incising the pleura. The published results of O'Brien, who had treated sixteen cases by the open method, indicated eleven (or 68 per cent) successes.

The method in more general use is the so-called closed method, which consists in cutting adhesions with the cautery or electrocoagulation under indirect vision given by a thoracoscope passed between the ribs, through a small puncture wound, under local anesthesia. Several instruments have been devised for this purpose. I originally used the Maendel-Kornitzer instrument, which is a modified cystoscope equipped with electrocoagulation and cautery. This is a single instrument giving indirect vision at an angle of about 30 degrees. A similar instrument, but without cautery, equipped with double hemostat for clamping the adhesion, is the Cutler-Davidson, recently marketed. The instrument most in use is the Jacobaeus-Unverricht, which has a thoracoscope giving right-angle indirect vision and a separate unit for cutting with cautery, which is inserted at a separate intercostal space. Matson several years ago devised a different cutting unit which uses the endotherm and devised an intrathoracic hemostat for clamping the adhesion when necessary. In most of my cases I have used the Jacobaeus-Unverricht method with cautery, but in some recent cases I have used electrocoagulation as well.

A summary of 831 cases treated by this method at the hands of Jacobaeus, Unverricht, Matson, and Welles, shows 73.8 per cent, successes in cavity closure, 6 per cent serious complications, 10 per cent mortality. Cornish, of our own Association, has, I am sure, had similar success. Numerous reports of smaller series of cases showing similar results are available.

In my experience, two days usually, or occasionally one or three days, is sufficient time to hospitalize cases operated upon. If only thoracoscopy or study of the pleural cavity is done, one day or less is sufficient.

SELECTION OF CASES

Every case of pneumothorax with unclosed cavities held by adhesions, should be considered for intrapleural pneumolysis. Those with very small pneumothorax pocekts or total adhesions over the cavities are at once ruled out and will be very apt to come to thoracoplasty. Separate adhesions, whether string-like, band-like, or sheets, must be carefully studied under the fluoroscope and by stereo-roentgenogram. These are not infallible. Small adhesions are frequently not shown. Adhesions appearing as strings are frequently found at operation to be bands or sheets of adhesion with thickened edges. The presence or absence of lung in the adhesion cannot be determined with any certainty by x-ray. Therefore, we must, in a case offering possibility of pneumolysis, look into the chest with the thoracoscope, which is almost as simple a procedure to the patient as a pneumothorax refill.

CONTRA-INDICATIONS

Acute empyema is a definite contra-indica-

tion. Chronic tuberculous empyema is usually a contra-indication because adhesions cannot be easliy differentiated from adjacent lung. Otherwise I know of no contra-indication except a hopeless general condition of the patient.

COMPLICATIONS

Almost every case has subcutaneous emphysema after operation; but it is of no serious consequence if the patient is given pneumothorax refill before expansion of the lung can occur.

Serous effusion was shown, in Welles' 1932 report of 141 cases, sixty-four times, there having already been effusion in thirty of these. Matson reported it in 1929 forty-eight times in 100 cases. It is usually of no moment. In one of my cases there was very high fever for some time and probably very much thickened pleura, as indicated by gradual contraction of the chest. In another case the patient was not fluoroscoped for some time after operation and basal adhesions formed in the fluid, which may undo the good of the operation although the apical cavity was freed. These patients with fluid often must be aspirated early and given refills of air.

Acute empyema (mixed infection) occurred in two (1.5 per cent) of Welles' cases. Both are well after aspiration treatment without drainage. Chronic empyema occurred in six cases (4 per cent). None of these had to be drained. Matson reported a somewhat higher percentage of chronic empyema. In our series of fifty-nine cases, three have developed tuberculous empyema without mixed infection. One came to thoracoplasty which would otherwise have been his lot. Two had bilateral disease and died from extension in the other lung.

Hemorrhage is no longer a serious complication. Welles reports none in 141 cases. Earlier reports show a very small percentage. In this series of fifty-nine cases there have been three. Two patients are well, their lungs expanded and functioning. One patient is clinically well, his cavity closed, but developed basal adhesions.

Spontaneous pneumothorax is infrequent. Welles and Matson report none. In this series it occurred in three cases, all with extensive bilateral disease which it was hoped to treat with bilateral pneumothorax. In all cases it developed several days after the operation. Cavity rupture is very rare. I have seen no report of it. Welles reports lung puncture in one case, but there were no sequelae. No rupture of cavity or puncture of lung occurred in this series.

In our series of fifty-nine cases, cavity closure has resulted in thirty-seven cases, or 62.7 per cent.

However, we have attempted something which I have not seen reported in the literature, i.e., the perfecting of bilateral pneumothorax by intrapleural pneumolysis. Of these fifty-nine cases, there were twenty-seven in which pneumolysis was attempted on one or both sides, bilateral disease being present. Cavity closure on the operated side was secured in twelve cases, or 44.4 per cent. Seven cases, or 25.9 per cent, have been clinically successful under bilateral pneumothorax, and we look for eventual restoration of lung function in these cases. In one case both lungs are fully re-expanded and the patient has been working one year. Without bilateral pneumothorax aided by intrapleural pneumolysis on one or both sides, these individuals would have been doomed.

In bilateral pneumothrax, a selective collapse of the diseased portion of the lungs must be obtained. Therefore, when adhesions are present, the success or failure of intrapleural pneumolysis may spell life or death to the patient.

Of the other five cases in this group, two have remained clinically so well that the contralateral lung may not need compression. In two cases contralateral pneumothorax has failed because of diffuse adhesions, and in one of these, at least, some form of plastic may be available after the collapsed lung has been restored to function. In the remaining case, the patient will die because of failure of contralateral pneumothorax and extending disease in the contralateral lung.

Subtracting this group of bilateral cases (twenty-seven) from the total (fifty-nine), we have then thirty-two of the unilateral cases, in twenty-four of which, or 75 per cent, there was cavity closure.

Of these twenty-four in which cavity closure was obtained, twenty-three or 71.8 per

cent of the unilateral group are clinical successes. In one case the outcome is in doubt. In one case the lung has been re-expanded about two years and the patient is well. The remainder are clinically well under continued artificial pneumothorax.

In one additional case, classed as a failure, the apical cavity was freed entirely of adhesions, but remains partially open near the hilum after four months. Mediastinal herniation into the other lung prevents pressure pneumothorax, but we feel this cavity will eventually close.

SUMMARY

To summarize briefly:

1. Intrapleural pneumolysis offers the possibility, through adequate artificial pneumothorax, of restoring the tuberculous lung to comparatively normal function.

2. Adequate pneumothorax means collapse of cavities and actively diseased lung.

3. When adhesions are present possibility of intrapleural pneumolysis should be considered, before other measures, after not more than three to six months trial of pneumothorax.

4. The dangers of serious complications of intrapleural pneumolysis are not comparable to the disadvantage of prolonging ineffective treatment.

5. In thirty-two cases of unilateral pneumothorax in this series, cavity closure occurred following intrapleural pneumolysis in twenty-four or 75 per cent. Clinical success without other treatment followed in twenty-three or 71.8 per cent of the unilateral group.

6. In twenty-seven cases of bilateral disease, cavity closure occurred in twelve cases, or 44.4 per cent. In seven cases, or 25.9 per cent, clinically successful bilateral pneumothorax was established by means of intrapleural pneumolysis on one or both sides.

7. In four cases, bilateral intrapleural pneumolysis has established successful bilateral pneumothorax of selective type, such that eventual restoration of both lungs is anticipated.

My thanks are due to Dr. Fred G. Holmes, Dr. Howell Randolph, and Dr. E. W. Phillips, who have referred many of the cases discussed.

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FOOD ALLERGY

(A Resume of the Literature; Personal Observations.)

ORVILLE H. BROWN, M. D.

(Continued)

DIAGNOSIS

Since the treatment of allergy to foods consists in removing from the diets those foods which cause clinical reactions, it is necessary to know which those foods are; the diagnosis must rest upon a combination of skin testing and clinical reactions.

The skin tests are made by the scratch, intradermal, or patch, method. The intradermal is more sensitive than the scratch; for certain cases and foods the patch may be preferable to either of the others. O'Keefe and Burgess had 30 per cent of scratch reactions and 87 per cent of intradermal reactions in asthma. All authorities agree that, especially in older persons, the skin tests may not be reliable. Either positive or negative reactions may be meaningless. The trouble usually is that a food causing trouble will give no skin reaction. Alexander and McConnel found that certain areas of a patient's skin reacted, whereas others would not react, to a substance; the skin may react at one time and not at another. The back and trunk are more sensitive than the thigh and the thigh is more sensitive than the forearm.

In 1922 I gave to the Society for the Study of Allergy a plan of clinical testing which I named the "food-addition method." This consists in putting the patient on one food at a time and, whenever one is found on which he makes steady improvement, he is kept on that usually for 24 to 48 hours; then another food is added; if it causes trouble it is eliminated; in case it does not cause trouble he has two safe foods to eat. The tests are continued until the reactions of a sufficiently large number of foods are obtained.

Rowe, some years after the presentation of the "food-addition method," introduced what he termed "elimination diets," which was but a modification and elaboration of my diet method. His method was designed to give the patient a balanced diet during the clinical testing, which of course my method does not give until a sufficient number of foods are tested, unless a patient is not sensitive to milk and takes it. This, however, I do not regard as important in most cases.

Several clinicians have suggested the importance of the patients' keeping diaries recording all foods eaten and the symptoms. From this it may be possible to arrive at conclusions relative to the offending foods. The proposition is more difficult than it might seem for the reason that, when a person is actually sensitive and having reactions, almost everything he eats will exacerbate his symptoms.

Since it is nearly always a summation of reactions which is producing the conditions of which a diagnosis is being attempted, it is just as important to know if other than food proteins or other toxins are having effects. The consensus of opinion now seems to be that bacterial proteins do serve as allergens. At any rate, since bacteria may set up a gastro-intestinal inflammation and thus be a predisposing cause of allergy by interfering with digestion, it is important to find all foci of infection in order that they, too, may be eliminated or at least controlled. This past year I had striking proof of the importance of this. I had worked on an asthmatic for a year and a half without greatly benefiting him. In spite of severe asthma and because it was beginning to seem necessary, we then had a severe stricture dilated. The patient was soon much improved. Then we took courage and had a transurethral resection of his prostate. He has now had nearly perfect relief from his asthma for the better part of a year. The weight of authorities is against radical or hasty operative procedures. I believe, whenever decidedly active foci can be removed without too much shock and risk, and the patient's suffering is severe and uncontrollable, one should not be too cowardly about recommending operation. I repeat that I have the impression that bacteria are often at the bottom etiologically of this hereditary-digestive-endocrine-metabolic-immunologic disturbance that we know as allergy, and therefore bacterial foci should be looked for and eliminated when good judgment dictates they should be. A patient of mine who has only recently obtained relief from an intractable and maddening pruritis thinks her recovery began with "colonic flushings" which she took at her own initiative. I

am not sure but that she is correct. Later a return of pruritis occurred and gall-bladder drainage, coupled with dieting, has apparently done her much good.

Every allergic is a law unto himself. His problems are unlike those of any other allergic. Each case is in reality a special research problem.

A carefully taken history, with the thought in mind that there are discoverable reasons for the allergic state in each case, may be of inestimable value. Is his digestion below par? Is he overtaxing his digestion by too much food? Is his food prepared so that it is easy to digest? Does he eat too rapidly? Does he masticate his food thoroughly? Is he always fatigued and nervous when he eats? Are his teeth poor? Is he constantly swallowing bacteria from his gums or nasopharynx to set up a gastro-enteritis? Had he ever had a prolonged spell of illness before becoming allergic? If so, on what was he fed? Of what foods is he particularly fond? Of which foods does he eat the greatest amount? What foods has he observed to cause trouble? Inquiry should be made about all types of allergy and the various symptoms thereof. Alvarez especially has emphasized the importance of careful history taking.

Most important of all, I should say, is to have the patient's and his nurse's cooperation in the research. They must understand what is to be looked for. They must understand what his special part of the problem is. They must keep the physician informed of effects and with him be on the watch for causes. There must be no let-up in looking for etiologic factors that had not before been thought of in his case or, for that matter, in any case.

TREATMENT

The ideal treatment is to eliminate the food or foods responsible for the allergic reactions. Usually it is advisable, though not always necessary, to eliminate all the foods which contribute to the trouble. Pollens and other inhalants and infections may add to the trouble caused by food and should be discovered and eliminated or otherwise appropriately treated.

The difficulty sometimes experienced in finding the source of a protein causing the trouble, is illustrated by Balyeat's case of a child fed only on cows' milk and yet by skin test sensitive to wheat protein. It was finally found that the cows from which the milk for the child came were being fed upon bran. A change to milk from cows fed only on pasture, effected a cure of a severe eczema.

A number of clinicians have desensitized to foods by giving extremely small amounts of the food in question and gradually increasing it.

The absolute withdrawal of a food to which one is sensitized, for a sufficient length of time will desensitize one to it. I first reported this in 1922 before the Society for the Study of Allergy. Vaughan and Piness and Miller in 1933 reported that cases lose their sensitizations by staying off the foods for a time. I have obtained desensitization to one serious case of urticaria by the patient's abstaining from all his reacting foods for as short a time as two weeks; the next shortest time of withdrawal desensitization was about six weeks; another extremely severe case was desensitized in about five months. Other cases have required longer.

I have found the food-addition-diet method of treatment extremely helpful. An example of how this works: A woman with generalized pruritis was first put upon a strict diet of cooked foods and hydrochloric acid and pepsin with all foods. After a week of this regime she was no better. This plan often gives complete relief, or otherwise it would not be justifiable to waste the week. She was then skin-tested for all foods and inhalants. All drugs were eliminated. No foci of infection were discovered. She was placed upon a diet containing only those foods to which she showed no reactions. Still her pruritis continued—perhaps slightly improved. She was placed then on a buttermilk diet. The pruritis was no better and possibly was slightly exacerbated. She was tried on beef only, and on other single foods. Among them was C. P. dextrose; this made her decidedly worse. Her grape test had given an 18 mm. area of redness at the end of 24 hours. Her reaction to corn had been negative. She was then given corn syrup, one or two drams per hour. By the end of 24 hours she was positively improved. As she did not object seriously to the starvation diet, and she had a plentiful supply of adipose tissue, she was kept on corn syrup for 48 hours. Then she was allowed to have rice water, without untoward effect. After 48 hours she

was allowed a small amount of canned milk with her rice. Potato chips, prepared cereals, broiled beefsteak, apple sauce, vegetable soup, pureed vegetables, and so forth, were added one at a time. Whenever she had an exacerbation of her pruritis, she was likely to know from which food it came, and that food was again eliminated for a time. In this particular case we believe that high enemas, which she took on her own initiative, were of much assistance in her recovery. She is constipated almost to the point of obstipation. She reported that much putrid fecal material was washed away by the high enemas.

After a person has been relieved of symptoms, comes the task of teaching him how to eat so that he has the best chance of staying well. I have a mimeographed page of instructions which is given a patient at an early visit. This serves to give him what I consider essential principles of diet.

Allergists have relatively little to say on the question of the proper general principles of diet. Piness and Miller say the total protein dosage must be kept below the patient's tolerance for protein. Reid remarks that social, marital, and economic matters must be given consideration. Alvarez writes that eating when fatigued, nervous, excited, or with a "cold" or other general upset, may be harmful. My own opinion is that it is difficult to over-emphasize the importance of proper digestion in relieving and preventing the return of allergic phenomena. I would call attention to the number of authorities, cited in the chapter on etiology, who believe that inadequate digestion has much to do with the cause of allergies from food. Then next I would call attention to the large amount of work, notably by Canon, which indicates that the digestion apparatus is extremely sensitive to disturbing influences. A cat's digestion, Canon demonstrated, came to a standstill if the cat was made angry or teased moderately or in any way much upset. It has also been fairly well established that the human behaves in this respect much as does the cat.

Perhaps the worries incident to the economic situation at present account for the apparently unusual number of sensitization cases many of us have lately been seeing.

On the above plan, a great many cases work out satisfactorily; there are those, especially those of long standing, or of marked severity, in whom results are far from satisfactory. It is in this group that van Leeuwen and others used tuberculin and still others used stock vaccines or other foreign protein. Results come sometimes when least expected. I have tried very little of the non-specific therapy. It is in this group of "no-man's land" cases to which it has seemed to me the urinary proteose therapy of Oriel's is applicable and worthy of a trial.

Since proteins, split-proteins, and other possible chemicals are eliminated in the urine it seems entirely rational that a product might be obtained from the urine which would be a specific antigen and which would be analogous to pollen extracts and other antigens which have been beneficial in therapy. Oriel's and the Guy's Hospital, and other reports indicate good results from its use. Burgess treated twenty-six cases with good results in certain cases. Psoriasis was often not benefited.

Probably the best support for Oriel's claim regarding urinary proteoses is the work of Jansion, Giard, and Martinaud, who claim that allergics eliminate through their urines "endo-antigens" and "exo-antigens" which cause sensitization reactions. They take urines under antiseptic precautions, adding to each cubic centimeter one drop of phenosalyl, or iodized alcohol. They mix these thoroughly and allow to stand for five to thirty minutes and then inject 0.5 to 5 cc. subcutaneously or intramuscularly, in ascending doses, for the purpose of producing desensitization. Treatment was successful in 336 of 372 cases of migraine, hay-fever, asthma, pruritis, urticaria, prurigo, strophulus, eczema, and psoriasis. The inference is that Jansion and his associates are working with the substances which Oriel terms proteoses.

A report from the British Asthma Research Council says that small intravenous doses of one's urinary proteoses tend to desensitize one to one's antigens; the treatment is satisfactory in some cases.

I have been using the urinary proteoses prepared according to Oriel, for about one year. Results in a few cases have been excellent. In other cases there has been absolute failure. In still others, there has been a lack of cooperation on the part of the patients, which may or may not bespeak failure for the proteoses.

Vasconcellos extracts the antigens from the feces and prepares solutions therefrom for injections. He reports good results.

The literature contains numerous references to the use of peptones, a small amount by stomach one-half to one hour preceding meals, and even by vein. Certain workers report good results. Probably a number of equally careful investigations have reported failures, or even aggravation of an allergic state. One wonders if variations in the chemical character of the proteins may not account for the variable results. Lambert, Ancel, and others say that a small amount of a food, drug, or peptone, an hour before meals, may prevent allergic reactions from that meal. Firgau says a small amount of the offending foods an hour before a meal when continued indefinitely, desensitizes to them.

Luithlen introduced the use of specific peptones—a peptone prepared for each protein. Urbach has followed up the preparation and use of specific proteins with aparently good results. Markin claims that using only foods for which specific peptones are prepared and giving the specific peptones 45 minutes before meals, desensitizes in about two weeks. We shall probably hear more of specific proteins in the future.

Richet, Jr., and Cander have recommended the use of liquid petrolatum, a dram preceding and a dram in the middle of each meal, and claim that symptoms often disappear within a few days. This procedure seems rational to me. I believe its good effect, if any, is likely due to the slight laxative effect in overcoming bowel stasis and a growing of bacteria high up in the canal. Bastedo recommended laxatives and high-up enemas in the alimentary canal.

Many authorities agree with Sansum and myself in the use of digestants. Allen writes that thorough digestion of proteins before absorption is a logical method of attacking the allergy problem. My own results are that allergic states of short duration are often promptly checked by the use of digestants. The longer a process has existed, the less likelihood is there that it will respond to the use of digestants and nothing more. I practically always prescribe the digestants and manipulate the diet and await results. Occasionally nothing more needs to be done. Sansum especially advises pancreatin; I have particularly favored either citric or hydrochloric acid, with or without pepsin.

Beckman's good results with nitrohydrochloric acid must be due, I suspect, to the aid it gives to digestion. Likewise, the ketogenic diet, with the resultant acidosis, may be beneficial because the increased acid in the tissues may tend to stimulate a better secretion of stomach acid. Any change of diet may be of help; some of the good of the ketogenic diet may be due to change of diet. Colby, Ferguson, Gilmore, and others claim beneficial results from the intravenous use of hydrochloric acid in asthma.

References to the administration of vitamins in allergic states are found here and there distributed through the literature. An isolated report or two grows a bit enthusiastic about the good produced by the use of vitamins. I have had undoubtedly beneficial results. If vitamins are concerned in causing the malmetabolism, use vitamines; if the endocrines are to blame for the deranged metabolism, use endocrines; if bacteria are at fault for a disturbed metabolic-immunologic state, remove foci of infection, sources of toxemia, and use vaccines.

Many authors comment upon the importance of proper cooking of foods. In some instances cooking at high temperatures for three to six hours renders a food, which has been causing trouble, relatively harmless. My own observations are that raw foods are decidedly more prone to cause trouble than are cooked foods. Since vitamins are important and prolonged cooking, especially at high temperatures, tends to destroy vitamins, the object of cooking usually should be to make food easy to digest. Occasionally for short periods, even though vitamins are destroyed thereby, it may be advisable to cook for the sake of producing a chemical change in the protein so that an allergenic protein becomes non-allergenic. I have ordinarily used prepared cereals and potato chips, melba toast, evaporated milk, and the like, with the thought in mind that in their preparation sufficient heat has been applied that allergenic principles may have been sufficiently changed to render them less allergenic than when used in the usual way. Idle and Thornburg mix the cereal and milk and then cook for prolonged period and find that such is often well borne.

Wherry speaks of an abundance of water internally in eczema as being highly beneficial. Stuesser, experimenting with an asthmatic, tried various treatments and concluded that large quantities of water were beneficial.

Astonishingly good results were reported by Priham from the use intravenously of a vegetable protein in peptic ulcer.

The recognized beneficial effects of dry climates upon allergics is explained by Arnold on the theory that lack of humidity reduces the permeability of mucous membranes.

The use of glucose freely in allergic states, for the purpose of keeping up the glycogen store in the liver, is regarded by numerous writers as of much importance. Mutzyer found it highly beneficial to asthmatics during the paroxysms, when given intravenously in large amounts. Gay uses dextrose as a starvation diet and then follows the plan suggested by me in the food-addition diet. I would warn that dextrose from grape or from corn may contain enough of the source protein to cause this to be kept in mind. I wonder if cane and beet sugar may not also have their source proteins.

Piness warns against a too liberal use of morphine in asthmatics, as the inability to clear mucus from the bronchi may lead to suffocation.

Guy, Machley, and others stress the importance of treatment with endocrine substitution or other therapy. Both emphasize thyroid feeding.

Fever therapy has been tried by various workers, notably by Fineberg, but in the main the results seem to be scarcely good enough for the trouble and discomfort.

Sztark gave allergic nursing infants hypodermics of mothers' milk, with beneficial results. The method of desensitization would be both specific and non-specific.

In non-specific desensitization many agents have been used; a few of them are tuberculin, milk, stock vaccines, typhoid vaccine.

PROBLEMS OF ALLERGY

Block says the problems in allergy consist of: Irregularities in skin tests; lack of knowledge underlying the effects of treatment with specific antigens; what it is that is passed from parent to offspring that constitutes hereditary tendency; whether there is a uniform fundamental abnormality in all allergies; whether there is abnormality of the endocrine system or of the vegetative nervous system; causes of low blood-sugar, low blood-pressure, slow pulse rate, eosinophilia; the exact relationship between allergy, anaphylaxis and immunity; why there is a difference in reactivity of organs in different individuals and in the same individual at different times.

The problems which have been suggested to me by the reading of these 500 or more papers are: What is the tissue change that causes edema and eosinophilia and perhaps a muscle spasm, in an allergic reaction? When the protein or split protein meets a sensitive tissue, what happens to the foreign protein? Does the sensitive tissue possess antibodies or enzymes, or antibodies with the immunologic characteristics of enzymes which attack the foreign tissue and destroy it so rapidly that the poisonous histamine or histamine-like bodies are so generously produced that the very tissues producing them are poisoned by them? Does the liver serve primarily as the destroyer of the foreign proteins which gain access to the body? Is sensitization a condition or state of an organ in which that organ has acquired the ability of the liver to destroy foreign protein? If so, is this due to a failure on the part of the liver fully to perform its task of destroying foreign protein? Is a liver fully stored with glycogen more competent to destroy foreign protein than one depleted of its glycogen store? What are the Prausnitz-Kuestner antibodies? If the difference between immunity and allergy is free antibodies in immunity and fixed antibodies in allergy, why are there antibodies in the serum in allergy which will passively sensitize the offspring or an area of skin into which the serum is introduced? Does not the suggested relationship between immunity and allergy lead one to think that in both conditions antibodies are really enzymes, which perform best, or perhaps only, by the aid of complement and are for the purpose of destroying foreign protein? In case of allergy to coal-tar products, quinine, and other non-protein chemicals, is it not possible that the body produces enzymes to destroy these chemicals just as may happen against proteins? Is there a link between antibodies and metabolism? Does an allergic have a deficiency in metabolic activity? Does he

fail to produce antibodies in the liver or elsewhere? In other words, does a non-allergic individual have antibodies in all tissues and no one tissue has the brunt of destroying the foreign protein? Or does the allergic individual have a few antibodies in all tissues, and an excessive number in one area? Why does a person, as is often the case, have asthma and no eczema; and, at another time, eczema and no asthma, or alternation of other types of allergy? Is there any special difference in absorption of incompletely digested proteins between allergics and non-allergics? Why do decomposition and autolyzed products of protein appear to produce, based upon my own observations, such marked allergic reactions? What happens when an antigenic food is completely eliminated from an allergic's diet for a time, that permits him again to eat that food in small amounts without reaction? Does the store of incompletely digested protein become gradually and slowly destroyed and eliminated and thus, after a time, get below the individual's tolerance level and allow a small amount of that protein to be cautiously and safely eaten? What happens in a pollen desensitization through gradually increased hypodermic injections of pollen extract? What happens when an individual sensitive to a number of food proteins has a focus of infection removed and suddenly, or at least fairly promptly, is relieved of his allergic phenomena? When a peptone, given forty-five minutes before a meal, prevents allergic reactions what has happened? What happens when, after an operation on an allergic individual, his symptoms disappear for a number of weeks?

(Discussion of this paper will appear next month.)

SUMMER DIARRHEA IN BABIES

Casec (calcium caseinate), which is almost wholly a combination of protein and calcium, offers a quickly effective method of treating all types of diarrhea, both in bottle-fed infants. For the former, the carbohydrate is temporarily omitted from the 24-hour formula and replaced with 8 level tbalespoonsfuls of Casec. Within a day or two the diarrhea, both in bottle-fed and breast-fed infants. For the former, the carbohydrate is temporarily omitted from the 24-hour formula and replaced with 8 level tablespoonfuls of Casec. Within a day or two the diarrhea will usually be arrested, and carbohydrate in the form of Dextri-Maltose may safely be added to the formula and the Casec gradually eliminated. Three to six tablespoonfuls of a thin paste of Casec and water, given before each nursing, is well indicated for loose stools in breast-fed babies. Please send for samples to Mead Johnson & Company, Evansville, Indiana.

PUBLIC HEALTH NOTES

J. ROSSLYN EARP, DR. P. H.
Director New Mexico State Bureau of Public Health.

NEW MEXICO SURVEY

The health survey of this state sponsored by its Tuberculosis Association and directed by Dr. Carl E. Buck, Field Director of the American Public Health Association, came to an end on April 30th. At the time of writing, a tabulation of the results from the first three counties surveyed has been made by Doctor Buck, who draws a few tentative conclusions in regard to some aspects of the survey.

In the three counties 584 adults presented themselves voluntarily for a health examination. Thirty of these, or 5 per cent, were definitely diagnosed as having active tuberculosis. In 334 others the condition was regarded as suspicious on clinical grounds. The x-ray readings have not yet been correlated with the clinical findings. Later, no doubt, a larger proportion of definite diagnoses will be possible.

Adults living in contact with those school children who had been found to have a positive Mantoux test were invited to attend the clinics for physical examination. In response to this invitation 294 presented themselves and were examined. A diagnosis of active tuberculosis was made in 15 and another 15 were regarded as suspicious.

Mantoux tests were given to children of grade school age. The tuberculin used was furnished by the Trudeau Laboratory at Saranac Lake. A single dose of one-tenth milligram was given. Of 1,666 Spanish-American children 354, or 21 per cent, reacted. Of 1,229 Anglo-American children 134, or 11 per cent, reacted. The high rate of infection among the Spanish-American children is noteworthy, and stands in marked contrast to the comparatively low rate of active disease found among adults of the same race.

Blood was taken as a routine part of all adult examinations except in rare cases where objection was made to this test. The state laboratory examined specimens from 776 adults by both Wassermann and Kahn tests. No less than 74 were positive for syphilis. From this

it appears that active syphilis is at least twice as prevalent as active tuberculosis in New Mexico.

A more complete report of the survey will be available at the meeting of the New Mexico Medical Society in July.

However, a report has already been received from Miss Mary Emma Smith, director of nursing activities of the National Society for the Prevention of Blindness, who, working under the direction of Dr. Paul Mossman, of the Office of Indian Affairs, made a study of vision among the school children of the state, and gave much valuable advice regarding lighting of the school rooms. A total of 1,474 pupils were examined by both physician and nurse. Of this number 21, or 1.4 per cent, possessed glasses. Eye conditions requiring follow up care were found in 388. A further indication of the need for public health activity among the schools is seen in the following table: :

TABLE SHOWING NUMBER WITH SPECIFIED VISION

	Number of Cases Having Specified Visual Acuity		
	Worse Eye	Better Eye	
Visual Acuity (Snellen)	Uncorrected	Uncorrected	With-Correction where worn
20/20		16	19
20/30		6	8
20/40		4	5
20/50		2	3
20/70	24	16	13
20/100	11	5	4
20/200	8	4	2
Worse than 20/200	12	2	1
	55	55	55

This group of 55 pupils, whose visual acuity is 20/70 or worse, in the worse eye, is derived from the 1,474 vision tests above mentioned. Only 10 of the 55 pupils were wearing glasses, Miss Smith believes it probable that in most of the remaining 45 cases improvement could be effected by the use of glasses.

PRESIDENT'S ADDRESS

WOMAN'S AUXILIARY TO THE ARIZONA STATE MEDICAL ASSOCIATION

MRS. C. R. SWACKHAMER
Superior, Ariz.

(Delivered before the Annual Banquet of the Arizona State Medical Association and the Woman's Auxiliary, at the Forty-third Annual Session of the Association, held in Prescott, Ariz., June 1, 8 and 9, 1934.)

Mr. Toastmaster, Members of the Medical Association, Auxiliary and Friends:

First of all, I want to thank the Medical Association for this opportunity and the honor of appearing before you as President of the Medical Auxiliary. I take it as a complimentary recognition of our position as helpmeet to your society.

There are physicians today who can, or may, look back longingly on the good old days of administering lotions and potions, and applying plasters and salves. But the new conception of the scope of a medical career has so widened its horizon and increased its responsibilities, that the present day physician who takes his profession seriously, **must** feel burdened beyond endurance with twenty-four hours of service.

The chief difference, as I understand it, between the old idea of medicine and the new, is the emphasis upon preventive medicine. It is not enough to heal the sick. Health maintained is better than health restored. As one physician expresses it, it is far better to build a wall along the edge of the precipice than to send an ambulance to the bottom **after** the crash. There is a necessity for the study of the best kind of wall, and the speediest means of building it. While the state organization studies how best to erect this structure as a whole, the county units contribute their share of bricks and mortar, as does also the Auxiliary.

The Woman's Auxiliary is furthermore needed to act especially as a medium between the profession and the public, and to interpret the thought of the medical experts to the layman.

Just as the County Health Officers and Coun-

ty Medical Society study the local health problems, so should the Auxiliary study them, but never act without the approval of the medical society. Education is the answer to many preventable diseases, and the Auxiliary is the best ally. Every Auxiliary should have an advisory committee, appointed by the medical society. to direct its activities, and should meet with them to map out a feasible plan, when occasion arises. For instance, in a diphtheria epidemic, every member of the Auxiliary should be fully informed on the subject of the immunization against diphtheria. A couple of simple leaflets to refresh her memory—she won't have time to read more—then comes the question, "How many auxiliary members are active in other organizations—PTA, Y.W.C.A., Women's Club, Church Societies, American Legion Auxiliary?" Ask these members to arrange to have a physician invited to address each organization in the near future, with good publicity. The doctor needs only to present himself at the meeting with his speech in his hand or his pocket, deliver his address, and go on his way rejoicing.

This educational work prepares the ground for a good public meeting, to which the entire community is invited. Music, motion pictures from the State Health Department or other sources, with good speakers, and careful advance publicity, should draw a good audience —but one never knows. One may engage all the crooners and movie stars, and all the seven arch-angels to address a meeting, but one cannot engage an audience to listen to them. A good plan would be to work up an audience through the schools. The Auxiliary bears the brunt of this activity, interviews the teachers and speakers, selects the films, engages the operator, out devils the printer's devil, and the busy doctors' share need be only the approval of the details. The expense of these meetings is small, and the Auxiliary has a thousand and one ways know only to the modern woman, to meet this. This is one way of educating the community, and a sure means of converting the anti-everything. This is only one of the many educational problems the Auxiliary can solve for the doctor, but is cited as a concrete example of the principle on which the Auxiliary is meant to work, and is working in many communities.

In Superior, this past year, working alone as an Auxiliary member, I phoned Mr. Forrest Doucette, and arranged for him to show several health films and give a lecture to the high school, eighth grades and parents. I also sponsored a Health Essay Contest, based on articles in the Hygeias, and distributed 100 Hygeia magazines through the schools, among the homes, for reading and instruction. Last of all, I kept Hygeias in the circulating library, beauty and barber shops all year. I am sure other wives in small communities can do the same.

The Auxiliary, acting in its dual capacity as a junior partner to the Medical Association, and as an active leader in women's activities in the county, prepares the soil, sows the seed, weeds and waters the growing plants and in the fullness of time, the doctor steps in and harvests the crop. So with proper direction and training, the Auxiliary may become a powerful instrument in the hands of the profession.

The public is crying out for health information, and in place of the falsities offered by the quack, the Auxiliary should be constantly on the alert, to substitute scientific facts.

Diet fads are one of the staples of current conversation, and their informers are always trying to worm their way into public confidence, by the offer of free lectures before women's organizations. A doctor's wife can forestall such delusions of the public by merely asking "Is he a physician? Where has he studied? What degree has he taken? What does he know of scientific nutrition?" While one cannot attack a quack, a few pointed questions often establish his true status. Every doctor's wife comes in contact with these problems at social gatherings, and often wishes she knew how to answer them tactfully.

The Auxiliary can exercise a powerful influence in the health teaching in the schools by distributing the American Medical Association publications and the five Auxiliary study envelopes on such subjects as: "Common Defects in Children," "Communicable Diseases," "Diphtheria," "Small Pox," "Typhoid Fever," "Measles," "Whooping Cough," "Scarlet Fever," and one on "Milk.' It can also use mon-

(Continued on page 215.)

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PROGRAM

Fifty-second Annual Session New Mexico Medical Society.

Las Vegas, N. M.

July 19, 20, 21, 1934
The Elks Club

Thursday, July 19, 1934.
Opening Session.

10:00 A.M. President's address by Dr. Charles F. Millikan, Clayton, New Mexico.

10:30 A.M. Dr. F. D. Garrett, El Paso, Texas: "Anaphylaxis—An important cause of obscure abdominal pain and digestive disturbances."

11:00 A.M. Dr. John H. Vaughn, Amarillo, Texas: "Cancer" with lantern slides.

11:30 to 12 Discussion of papers.

12 to 2 P.M. Luncheon and round-table discussion as guests of New Mexico State Insane Asylum. Dr. A. B. Stewart, host.

2:00 P.M. Dr. M. K. Wylder, Albuquerque, New Mexico: "Prevention of Heart Disease in Children"

2:30 P.M. Dr. Casper Hegner, Denver, Colorado, Professor of Surgery, University of Colorado: "Surgery of the Abdomen."

3:00 P.M. Dr. O. H. Horrall, Chicago, Illinois, Chief Surgeon, Chicago, Burlington & Quincy Railroad: "Trauma of the Joints and Cartilaginous Repair."

3:30 P.M. Dr. G. Heusinkveld. Denver, Colorado, Associate Professor Obstetrics, University of Colorado: "Obstetric Problems."

Thursday, July 19, 1934.

4:00 P.M. Dr. H. W. Winsett, Amarillo, Texas: "The Schilling Blood Count."

4:30-5:30 Discussion of Papers.

8:00 P.M. Public Meeting.

9:00 P.M. Annual Smoker.
Agua Pura Company Cottage in Gallinas Canyon.

Friday, July 20, 1934

9:00 A.M. Dr. J. A. Britton, Chicago, Illinois, Chief Surgeon International Harvester Company: "Silicosis."

9:30 A.M. Dr. Harry Wear, Denver, Colorado. Associate Professor Genito Urinary Disease, University of Colorado: "Transurethral Prostatic Resection."

10:00 A.M. Dr. J. W. Kennedy. Philadelphia: "Indications for Vaginal Hysterectomy with Clamps."

10:30 A.M. Dr. L. A. Buie, Rochester, Minnesota, Proctologist, Mayo Clinic: "Hemorrhoids."

11 to 12 Discussion of papeas.

12 to 2 P.M. Luncheon as guests of the Board of Directors of the Las Vegas Hospital at Odd Fellows Hall.
Dr. Hugo O. Deuss, Chicago, Illinois: "Medical Economics,"—An analysis of the medical tactics of the social agencies in the Emergency Relief, The C. W. A., etc.

Friday, July 20, 1934

2:00 P.M. Dr. A. C. Scott, Temple, Texas, Chief Surgeon, Gulf Coast Lines Railroad: Subject later.

2:30 P.M. Dr. Frank Kelly. Chicago, Associate Professor of Medicine, University of Chicago, Rush Medical College. "Treatment of Pneumonia."

3:00 P.M. Dr. C. W. Mayo, Rochester, Mayo Clinic: "Appendicitis."

3:30 P.M. Dr. W. C. Finnoff, Denver, Colorado, Professor of Ophthalmology, University of Colorado: "Differential Diagnosis in the Common Eye Diseases."

4:00 P.M. Dr. W. W. Waite, El Paso, Texas: Pathology (Subject later).

4 to 5 P.M. Discussion of papers.
7:30 P.M. Annual Dinner Dance. Castaneda Hotel.

Saturday, July 21, 1934

9:00 A.M. Dr. C. F. Kemper, Denver, Department of Medicine, University of Colorado: "Congestive Heart Failure."
9:30 A.M. Dr. C. T. Burnett, Denver, Department of Medicine, University of Colorado. "Primary Anemia."
10:00 A.M. Dr. J. W. Kennedy, Philadelphia: 'Surgical Pathology of Peritonitis."

Saturday, July 21, 1934

10:30 A.M. Dr. Hugo O. Deuss, Chicago, Department of Medicine, University of Illinois: "Blood Dyscrasias—Agranulocytosis and Acute Leukemia."
11:00 A.M. Dr. L. M. Miles, Albuquerque, New New Mexico: "Gonorrhea in the Female."
11:30 to 12:30. Discussion of papers.

Scientific Exhibits

"Pathology of the Eye."—Dr. W. C. Finnoff, University of Colorado.
"Motion Picture on Intracapsular Cataract Extraction, 'Vacuum Cup Method'."—Dr. E. R. Crossley, Chicago Eye, Ear and Nose and Throat Hospital, Chicago, Illinois.
"Tularemia."—United States Public Health Service.
X-ray Exhibit.—Drs. Cathcart and Mason, El Paso, Texas; Dr. Van Atta, Albuquerque, New Mexico; Valmora Sanatorium.
Medical Illustrations.—Dr. Tom Jones, University of Illinois.
Commercial Exhibits by J. C. Durbin & Co., Denver; Southwestern Surgical Supply, W. A. Horr & Co., Eli Lilly & Co., Mulford & Co.

CORRECTIONS

In the April issue, in the article on "Childhood Tuberculosis as a Public Health Problem," by Dr. J. Rosslyn Earp, a typographical error which completely changed the meaning of a statement was made. On Page 29, first column, near the top, the sentence reads, "If we trust to our prejudices, then those of us who believe that a first infection makes the individual more susceptible to subsequent infection will take the opposite view."

The sentence should have read, "If we trust to our prejudices then those of us who believe that a first infection makes the individual less liable to subsequent infection will not expect to see a large number of adult cases developing from these apparently healthy, though admittedly infected, children. On the other hand, those who believe that a first infection makes the individual more susceptible to subsequent infection will take the opposite view."

The original manuscript read correctly, and the error was in proof reading.

On page 138, in Public Health Notes, also by Dr. Earp, in the second column, under caption "5," the dosage of arsphenamine should be 3.0-4.00 gms., instead of 3.00-4.40, as it reads.

President's Address

(Continued from page 213.)

ey to place the Hygeia in the schools where it is not subscribed for.

By espousing the cause of the yearly examination and by setting the example themselves, the Auxiliary can build up public opinion in favor of this practice.

We have had one example of the usefulness for an Auxiliary this past year, when the referendum to the Basic Science Law was to be voted upon at a special election. At the request of the Health League, the Auxiliary, feeling it a great privilege to assist in so worthy a cause, responded wholeheartedly. Quoting from a letter to me from one of the League members, I read: "The League feels that to the ladies of the Auxiliary, state wide, goes a large measure of this success."

Wherever an Auxiliary exists, it carries on such activities as those listed in our Yearly State Reports; helping to pass an ordinance making it compulsory for drug store fountains and lunch counters to use paper cups, sponsoring and equipping an open air school, x-raying needy children and fitting them with glasses, supplying milk and noon lunches to school children, donating money to a tuberculosis preventorium, giving health radio talks, supplying speakers on health subjects and working in all organizations trying to keep the doctor's point of view before the people.

Dr. Wm. Gerry Morgan of Washington, a past president of the American Medical Association; "Whenever the medical fraternity has held out a helping hand to the Woman's Auxiliary, they have been gratified to find that the work of the Auxiliary flowed along safe and helpful channels, and the results proved worth while."

In a profession as highly individualistic as medicine, there are bound to be frictions, jealousies and cliques, but doctors cannot persist

in feuds and antagonisms, if their wives are working shoulder to shoulder in the Auxiliary for the common good. A report from the president of one of our counties in Arizona this year says: "I believe that the greatest accomplishment of our County Auxiliary has been the creation of a spirit of good friendship between the wives of the local physicians." At first, it seemed that the Auxiliary could not possibly outlive the feeling of rivalry between the wives of the doctors, but with good programs and large attendance at our meetings and the close friendships which have sprung from these contacts in meetings, all demonstrate that our organization is necessary and that it will continue to be an institution for the good of the community.

At our State Medical Auxiliary this year, I have inaugurated the morning sessions, which I hope will prove interesting and popular and draw more members to them each year. This will reflect upon the State Medical Association, bringing in turn a larger attendance. As you know, it is the women who often bring their husbands to the meetings. Women enjoy wearing their best clothes, meeting old friends and making new ones, and their social instincts and aptitudes lend a charm to all the entertainments, which the men appreciate.

Finally, and most worthwhile of all, the Auxiliary seems to develop a closer bond between the doctor and his wife. She is no longer an outsider, jealous of his profession and his absorption in his duties. Her interests likewise are centered on health, and the great reward to both comes in the realization that they are working together in the cause of humanity.

Specialists in the study of child nutrition have been quick to recognize the value of milk as the mainstay of the child's diet.

"But what," asks the frantic mother of a youngster who dislikes milk, "can I do to make my child eagerly want that which he now rebels against?"

Today the doctor who is confronted with this query can solve this age-old problem by the helpful advice to mix Cocomalt with the milk. For by the simple addition of Cocomalt, milk not only becomes a delicious chocolate flavor drink—but its food-energy value is practically doubled. Cocomalt in milk provides extra proteins, carbohydrates and minerals (food-calcium and food-phosphorus). It is also a rich source of Vitamin D.

Thus Cocomalt not only induces youngsters to drink all the milk they require—it provides extra food-energy value as well as a rich supply of Vitamin D. Cocomalt is accepted by the Committee on Foods of the American Medical Association.

TWIN responsibility FOR THE DOCTOR

IT is to her doctor that the mother looks—not only for her own well-being—but that of her child.

During pregnancy her own bones and teeth must be safeguarded; but so also must be the developing bones and teeth of the little newcomer. This is the doctor's twin responsibility.

It is a grave responsibility—and a vitally important one. The mother's diet, during pregnancy and lactation, must be—

Rich in Calcium, Phosphorus and Vitamin D

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Properly prepared, Cocomalt adds 70% more caloric value to milk—increasing the protein content 45%, the carbohydrate content 184%, the mineral content (calcium and phosphorus) 48%. It comes in powder form only, easy to mix with milk. It is sold at grocery and good drug stores in ½-lb., and 1-lb. air-tight cans—also in 5-lb. cans for hospital use at a special price. Equally delicious HOT or COLD.

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Cocomalt is accepted by the Committee on Foods of the American Medical Association. It is composed of sucrose, skim milk, selected cocoa, barley malt extract, flavoring and added Vitamin D.

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THE AMERICAN COLLEGE OF PHYSICIANS Will Meet in Philadelphia, 1935.

The American College of Physicians will hold its Nineteenth Annual Clinical Session in Philadelphia, April 29-May 3, 1935.

Announcement of these dates is made particularly with a view not only of appraising physicians generally of the meeting, but also to prevent conflicting dates with other societies that are now arranging their 1935 meetnigs.

Dr. Jonathan C. Meakins, of Montreal, Que., is President of the American College of Physicians, and will arrange the Program of General Sessions. Dr. Alfred Stengel, Vice President in Charge of Medical Affairs of the University of Pennsylvania, has been appointed General Chairman of local arrangements, and will be in charge of the Program of Clniics. Mr. E. R. Loveland, Executive Secretary, 133-135 S. 36th Street, Philadelphia, Pa., is in charge of general and business arrangements, and may be addressed concerning any feature of the forthcoming Session.

SLEEPY SALTS.—The Bureau of Investigation of the American Medical Association reports that the public is now being bombarded with an advertising campaign for "Sleepy Salts," which are said to be put out by the exploiters of a mineral water, "Sleepy Water." The Sleepy Water Company has its headquarters at Hot Springs, Ark., and its "midwest headquarters" in Chicago. The company states that Sleepy Salts is about 15 per cent sodium citrate and citric acid (neither of which substances, of course, is to be found in any natural spring water). Government analysis shows that Sleepy Salts is essentially "horse salts" (sodium sulphate—Glauber's salt), with a proportion of epsom salt added. In other words, in buying Sleepy Salts one pays 75 cents for three and a half ounces of what is essentially a mixture of Glauber's salt and epsom salt. The high-pressure advertising campaign for saline cathartics is a pernicious influence on the public health. Fantus has well pointed out that these salts "belong among the habit-forming drugs and are responsible for a large proportion of cathartic habit." The same authority has called attention to the fact that such salines "are occasional accessory causes of death from ileus and appendical and other forms of peritonitis." The advertising pages of newspapers and the radio programs of the broadcasting stations are not subject to the control of the Food and Drug Act, for it is only lies on or in the trade package that are subject to the penalties of that law. This doubtless explains the campaign of misrepresentation and vilification on the part of many supposedly reputable newspapers and magazines against the proposed extension of the National Food and Drugs Act to cover collateral advertising. (Jour. A. M. A., May 5, 1934, p. 1915.)

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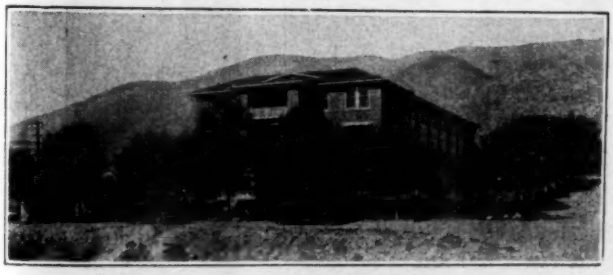

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